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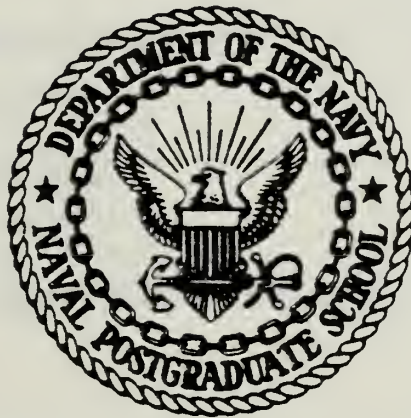






# NAVAL POSTGRADUATE SCHOOL

Monterey, California



## THESIS

SEARCH AND RESCUE RESOURCE ALLOCATION  
USING THE  $M/E_k/c$  QUEUE

by

Herbert H. Sharpe

October 1982

Thesis Advisor:

P. R. Milch

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## #20 - ABSTRACT - (CONTINUED)

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Search and Rescue Resource Allocation  
Using the  $M/E_k/c$  Queue

by

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B.S., United States Coast Guard Academy, 1975

Submitted in partial fulfillment of the  
requirements for the degree of

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ABSTRACT

Justification is provided for modelling the arrival and subsequent disposition of distress cases at a Coast Guard Search and Rescue Station as an  $M/E_k/c$  queue. Numerical tables and a simple computational method are presented which provide convenient and accurate steady state solutions to this system assuming first in first out queue discipline. Specific measures of effectiveness computed include the delay probability, average queue length, average number in system, average waiting time, average time in system, and the distribution of waiting time. Additionally, the consequences of considering a preemptive priority queue discipline with two priority classes are investigated and a method of calculating the delay probability for this priority scheme is proposed.





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## I. INTRODUCTION

Search and Rescue (SAR) is one of the United States Coast Guard's most visible and well known primary missions. The backbone of the Coast Guard's SAR effort is the network of small boat Stations distributed at various points along our nation's shoreline so as to provide adequate coverage for coastal boating. The bulk of these Stations' SAR fleets consists of two boat types, the forty one foot utility boat (UTB) and the forty four foot motor surf boat (MSB). These two hull types account for virtually all the short range surface SAR response provided by the Coast Guard.

While it would be ideal in terms of public safety to maintain an unlimited number of SAR resources available for immediate response, such a policy is economically infeasible. This gives rise to the obvious though difficult problem of determining the optimal allocation of a scarce resource, in this case, boat crews. The allocation of boat crews vice boats is discussed since it is generally Coast Guard policy to allow at least one more boat than boat crew per Station to increase the likelihood of having both a boat and crew available for response simultaneously. Thus, the boat crew is the limiting resource.

The Search and Rescue Division of the Office of Operations, Coast Guard Headquarters, maintains ultimate responsibility for this task. In deciding on each Station's manning





level, Division personnel are interested in the effects felt by local SAR systems caused by varying available resources. Specific effects can be measured by such measures of effectiveness (MOE's) as the probability of a delayed distress response caused by occupied boat crews, the average duration of the delay, and the average number of distressed craft having to wait. Obtaining such information would surely assist planners in arriving at some satisfactory allocation.

These MOE's suggest the use of queueing techniques to analyze the operation of SAR resources at a Station. The incidence of distress cases can be considered as customer arrivals. Upon entering the system, cases may either wait for service or receive service immediately upon finding an idle boat crew. The length of time a boat is deployed on a given case will comprise the service time. Information on both arrival times and service times is contained in the SAR data base maintained at Coast Guard Headquarters. The data base consists of information recorded by each unit on the Search and Rescue Assistance Report (CG-5151) [Ref. 1] each time they respond to a case.

This thesis is concerned with examining the available data in order to determine an appropriate queueing system which will best model the situation, and then providing solutions for the system in terms of some MOE's which could be of value to the SAR planner. Chapter II of this thesis



contains a description of the manner in which distress cases arrive at a Station. Justification for considering only a finite time window in order to identify a period of homogeneous arrivals during the busiest SAR season is presented, along with the results of the data-fitting analysis. A discussion of service times follows in Chapter III, again along with the results of efforts to find an appropriate distribution to fit the data. The samples were taken from four environmentally diverse Stations intended to represent a reasonable cross section of Coast Guard operating areas. The information was drawn from the fiscal year 1980 data base as it was the most recent available at the time of commencing this study. Chapter IV provides a list of desirable system descriptors of use to a Coast Guard SAR planner and equates these to some common measures of effectiveness often used in queueing analysis. Two practical computational methods for calculating the desired information and some work considering the introduction of a two class priority scheme are then presented in Chapter V. The final chapter contains a brief summary of the work.



## II. DISCUSSION OF THE ARRIVAL PROCESS

### A. DEFINITION OF AN ARRIVAL

The definition of an "arrival" warrants some discussion. From the time a vessel perceives its distress to the moment a Coast Guard vessel arrives alongside, several communications have transpired, both between the distressed vessel and the Coast Guard, and within the Coast Guard's SAR structure. Exactly when during this time a case is said to "arrive" needs to be decided.

A distressed craft will communicate its situation by any means available. This could be by a mayday message broadcasted over a radio if so equipped, by one of many visual distress signals such as lighting a fire on deck or sending up a red flare, or maybe simply by shouting to another vessel in close proximity. This initial call for help may or may not fall directly on Coast Guard ears, but, in most cases, the Coast Guard's first notification will arrive at a Radio Station. While not normally equipped with life saving resources, they do act as a communications facility and can effectively relay relevant information to the cognizant Rescue Coordination Center (RCC). The RCC acts as a command center. Here the decision is made as to the appropriate resource to dedicate to the mission. If it is felt the best response could be provided by a Station's UTB or MSB, that Station is contacted, either by radio-teletype





or telephone, and ordered to dispatch on the case. The Station then assigns a boat and a crew and gets them underway towards the vessel in distress.

Since only those data recorded on the SAR Assistance Report [Ref. 1] are available, three entries emerge as candidates: day/time CG notified, day/time unit notified, and day/time underway. Of the three, the second, day/time unit notified, appears to be the most appropriate. The purpose of this work is to gain insight into the consequences of varying resources at the Station, other factors remaining constant. It therefore would not be appropriate to consider a case as having arrived prior to the Station being made aware of its need for response, eliminating the first candidate. As for the third, day/time underway would exclude time spent in the queue awaiting an idle resource, while it is an aim of this thesis to use that quantity as an MOE. This leaves day/time unit notified as the logical time of arrival.

## B. DATA ANALYSIS

### 1. Homogeneous Time Window

As suggested in the Introduction, Station SAR demand is far from homogeneous, due largely to the fact that the "customers" serviced are primarily members of the recreational boating population. Experience and the data clearly show SAR case load and boating density are lightest during the colder, more severe winter months and during the normal five





day work week. Rather than consider these non-homogeneous arrivals in the queueing analysis, an attempt was made to find a finite time window during the busiest hours of the busiest days of the busiest month in which arrivals could be considered to be occurring at a constant rate.

## 2. Statistical Procedure

Graphical displays of weekend SAR data suggested the period 0900 to 1800 on Saturday and Sunday as a candidate for a time interval over which cases arrive at a constant rate. Times from the beginning of the time window to the first case arrival and from the last arrival to the end of the window were not considered. Efforts to fit these interarrival times, drawn from four environmentally diverse Stations (New Haven, Ct., Rockaway, N.Y., Cape May, N.J., and Coos Bay, Ore.), to the Exponential distribution proved successful. July data was chosen to represent the season of busiest SAR activity. The decision to accept the Exponential distribution was based on Chi-square goodness of fit tests at the 95% level, using the first moment estimator, the reciprocal of the sample mean interarrival time, as the estimate of the arrival rate  $\lambda$ . Table I contains a summary of the results of the tests on each Station's interarrival data. The computed Chi-square statistics are all well below the corresponding critical values, providing no evidence to reject the assumption that the data came from an Exponential population. The acceptance, therefore, of the Exponential



TABLE I  
Exponential Chi-Square Test Results

<u>Station</u>	<u><math>\lambda</math> (hrs.)<sup>-1</sup></u>	<u><math>\chi^2_{\text{computed}}</math></u>	<u><math>\chi^2_{.95, n-1}</math></u>
Cape May	1.797	3.30	12.59
Coos Bay	1.022	2.37	12.59
New Haven	1.018	0.35	9.49
Rockaway	1.340	3.22	14.07

distribution implies that the Poisson Process is an appropriate descriptor of the arrival phenomenon.



### III. DISCUSSION OF SERVICE TIMES

#### A. DEFINITION OF SERVICE TIME

As with arrivals, exactly what is to be considered service time needs to be defined. Unlike a bank or barber shop, customers do not physically arrive at a well-defined facility and commence being administered to, face to face, by the first available server, nor do customers "queue up" in a waiting line when awaiting service. In most instances, a typical SAR case occurs some distance offshore. The crew must get a normally moored vessel underway, transit the distance from the Station to the distressed craft, render necessary assistance, and, in more cases than not, tow the disabled vessel to safety. Since all elements of the aforementioned procedure are part of servicing a case, all should contribute to service time.

A considerable problem arises due to the nature of the available information. Data recorded include day/time unit notified and day/time underway as previously discussed, as well as sortie time. This latter term is defined in the Coast Guard publication Search and Rescue Data System Manual (COMDTINST M5230.10) [Ref. 2] and basically involves the underway time of the rescue vessel. More specifically, sortie time is either the time from departure until the time of return to homeport, or, if diverted from another mission, the time of diversion to the time of return to the original



mission. The problem arises in considering the elapsed time from notification to time underway. Given an available resource (boat), this time typically involves either a short walk from an adjacent shore facility to the boat or often a radio call directly to the boat if the crew is already aboard. However, if a case were queued, the waiting time would accumulate here with no accompanying indication that a resource was unavailable. In other words, there is no way to isolate that portion of the time from notification to the time underway due to normal startup time, which of course should be included in service time, from that time spent waiting for the availability of a resource. Examination of the raw data, however, revealed that the time from unit notification to time underway, which would include any queueing time, was no more than ten minutes 90% of the time. In further analysis, therefore, sortie time will be used as a surrogate of service time.

## B. DATA ANALYSIS

### 1. Parameter Estimation

Sortie times for the four Stations were then displayed in stemleaf plots to aid in discovering an appropriate distribution to fit the data. Only those service periods begun during the homogeneous time window were considered. Examination of the displays consistently suggested the use of the Gamma or Erlang distributions, of which the latter was chosen due to the availability of many queueing results





involving its use. Due to the presence of two parameters in the Erlang distribution, however, three methods of parameter estimation were investigated. Letting  $Y$  be a random variable representing service time, the appropriate PDF is

$$f(y) = \frac{\left(\frac{1}{\beta}\right)^k}{(k-1)!} y^{k-1} e^{-\frac{1}{\beta}y}, \quad y \geq 0 \quad (3.1)$$

with mean  $k\beta$  and variance  $k\beta^2$ .

The first alternative involved using the method of moments, setting the sample moments equal to the corresponding distributional moments;

$$\bar{Y} = k\beta \quad \text{and} \quad S^2 = k\beta^2.$$

This yielded the parameter estimates:

$$\hat{k} = \frac{\bar{Y}^2}{S^2} \quad \text{and} \quad \hat{\beta} = \frac{S^2}{\bar{Y}}.$$

Since  $k$  must take on an integer value,  $\hat{k}$  must be rounded to the nearest integer.

The second method varies from the first only in its estimate for  $\beta$  and accounts for the rounding error created when rounding  $\hat{k}$  to the nearest integer. The estimate for  $\beta$  is therefore recalculated using the integer valued estimate of  $k$  and the relationship



$$\text{mean} = k\beta$$

yielding

$$\hat{\beta} = \frac{\bar{Y}}{\hat{k}}.$$

The third method investigated is presented by Read [Ref. 3] and is derived through the Gamma distribution, then making the appropriate conversions to the Erlang distribution. His estimates for the Gamma parameters

$$\hat{\alpha} = \frac{\bar{Y}z}{\bar{Y}z-1} \quad \text{and} \quad \hat{\beta} = \bar{Y} - \frac{1}{z}$$

where

$$z = \frac{1}{n} \sum_{i=1}^n \frac{1}{Y_i}$$

are said to be asymptotically more efficient than the simple method of moments estimators for  $k > 3$ .

## 2. Statistical Procedure

The Erlang parameter estimates for each of the four Station samples were calculated using each of the aforementioned methods. Using the estimates provided, Chi-square goodness of fit tests were conducted. The second method consistently produced the smallest Chi-square statistics, well within a 95% acceptance region, and thus was chosen to provide future parametric estimates. The results are



displayed in Table II. It should be noted that the performance of the third method in terms of the Chi-square tests was not surprising due to the small values of  $\hat{k}$  generated. Perhaps in future application, if samples produce larger estimates of  $k$ , the use of this method would prove to be a more competitive alternative and should therefore not be completely abandoned.

TABLE II  
Erlang Chi-Square Test Results

Station	Method #1			Method #2			Method #3		
	k	$\beta$ (hrs.)	$\chi^2_{comp}$	k	$\beta$ (hrs.)	$\chi^2_{comp}$	k	$\beta$ (hrs.)	$\chi^2_{comp}$
Cape May	2	.703	10.16	2	.778	8.24	2	.668	21.01
Coos Bay	1	1.169	4.27	1	1.051	2.18	2	.573	11.24
New Haven	2	.810	11.84	2	.689	6.70	3	.534	11.16
Rockaway	2	.620	7.39	2	.577	6.14	2	.611	5.39



#### IV. MEASURES OF EFFECTIVENESS

The results from the two previous chapters support the contention that the  $M/E_k/c$  queue may be of value in describing the operation and allocation of Search and Rescue resources at a Coast Guard Station. It remains to determine a method of extracting needed measures of effectiveness to aid in evaluating the relative merits of competing resource allocations.

In administering the Search and Rescue program, Coast Guard planners must decide upon, as previously discussed, the number of ready boat crews to allocate to each Station. Their problem is that of supplying the customers, in this case the recreational boating public, with some satisfactory level of SAR capability while attempting to minimize system costs. Certain relevant measures of system performance obtainable through queueing techniques could prove of great utility in this endeavor. These measures are described below.

##### A. PROBABILITY OF A DISTRESS CASE WAITING FOR SAR SERVICE

An important yardstick with which to measure the adequacy of a given resource level is the estimate of the probability that a vessel in distress will have to wait for an idle rescue craft. Due to the emergency nature of the required response, it is of paramount importance to maintain a consistently high readiness posture. Unlike a barber shop or





gas station, the consequences of waiting for service may be grave and even potentially fatal. A method through which one can assess, for varying boat crew allocations, the likelihood of failure to meet the SAR demand at once during a peak period would be of great value. Using queueing analysis, the quantity termed delay probability provides this result and will be calculated in the next chapter.

#### B. AVERAGE NUMBER OF DISTRESS CASES WAITING FOR SERVICE AND IN THE SYSTEM

The analyst might choose to weigh the relative merits of two or more proposed allocation schemes based on the number of distressed vessels, on the average, having to wait for an idle Coast Guard crew, or similarly, on the average number of active cases, both those being assisted and those waiting for service, at any time. Clearly, the ordinal ranking of fewer is better would be appropriate. The queueing expressions  $L_q$  (Average queue length) and  $L$  (average number in system) provide methods of calculating these averages.

#### C. AVERAGE TIME SPENT WAITING BY A DISTRESS CASE FOR AN IDLE CREW AND AVERAGE TIME IN SYSTEM

The planner might wish to provide boat crews sufficient to keep the average duration of a distressed case's delay below some maximum value. The total time, on the average, a case remains active, including both waiting and service time, might provide another MOE of similar value. These quantities, designated  $W_q$  (average waiting time) and  $W$  (average time in system) are readily obtainable through queueing techniques.



#### D. DISTRIBUTION OF WAITING TIMES OF A DISTRESS CASE

Often a SAR system manager would be interested in the likelihood that a distressed vessel's delay exceeds some fixed length of time. This type of analysis lends itself to the establishment of some threshold duration or maximum acceptable delay with very high probability. Queueing analysis could allow the planner to determine, for instance, the number of boat crews required to ensure that the likelihood a vessel must wait more than a half hour for an idle rescue boat does not exceed ten percent. A knowledge of the distribution of waiting times would therefore serve as excellent input to the decision making process.



## V. COMPUTATIONAL METHODS

This chapter presents two reasonably simple methods for obtaining the aforementioned MOE's given the appropriateness of the  $M/E_k/c$  queue as a modelling vehicle for the Station SAR operation, and then extends the results to consider a priority scheme other than FIFO.

The work thus far has concentrated on providing necessary background on the Coast Guard SAR system, finding characterizations of the arrival process and service times, and selecting MOE's. Prior to presenting the two computational methods previously discussed, a more detailed description of the  $M/E_k/c$  queueing system is in order.

### A. DESCRIPTION OF THE $M/E_k/C$ QUEUE

The  $M/E_k/c$  queue is characterized by a homogeneous Poisson arrival stream with rate  $\lambda$  whose interarrival times have PDF

$$f(x) = \lambda e^{-\lambda x}, \quad x \geq 0$$

and Erlang service times with PDF

$$f(y) = \frac{\left(\frac{1}{\beta}\right)^k}{(k-1)!} y^{k-1} e^{-\frac{1}{\beta}y}, \quad y \geq 0$$



The FIFO (first in, first out) priority discipline is assumed and the following variable and parameter definitions apply.

$c$  = total # of servers  
 $\lambda$  = arrival rate = reciprocal of mean inter-arrival time  
 $k$  = Erlang shape parameter  
 $\beta$  = Erlang scale parameter  
 $\mu$  = service rate = reciprocal of mean service time  
 $\rho$  =  $\lambda/c\mu$  = system intensity  
 $N$  = total number in system  
 $N_q$  = total number in queue  
 $L$  =  $E[N]$  = mean number in system  
 $L_q$  =  $E[N_q]$  = mean number in queue  
 $T$  = total time in system  
 $T_q$  = total time in queue  
 $W$  =  $E[T]$  = mean time in system  
 $W_q$  =  $E[T_q]$  = mean time in queue

## B. TABULAR METHOD

### 1. Background

The theory surrounding the  $M/E_k/c$  queue has been sufficiently developed to a point where several numerical methods have been shown to produce adequate steady state results. Due to the complexity of the computational requirements, however, direct utilization by a layman in a decision





making capacity (in this case, a Lieutenant in the Search and Rescue Branch) would be impractical, if not impossible. Hillier and Lo [Ref. 4], in an effort to make complex results readily obtainable by would-be users, have prepared, for a finite though practical subset of possible values of system parameters  $k$ ,  $c$ , and  $\rho$ , a series of tables presenting many desirable measures of steady state system performance. They cite recent computational treatments by Mayhugh and McCormick [Ref. 6], Mayhugh [Ref. 7], and Heffer [Ref. 8], and the comprehensive analysis of the  $E_m/E_k/c$  system by Yu [Ref. 9] as the basis for their tables. Of specific interest for this application is their Table I, partially reproduced herein as Appendix A, which provides the desired measures of effectiveness for the following parametric combinations.

$$k = 2; \quad c = 2, 3, \dots, 10$$

$$k = 3; \quad c = 2, 3, 4, 5$$

$$k = 4; \quad c = 2, 3$$

$$k = 5, 6, 7, 8; \quad k = 2$$

$$\rho = .10, .20, \dots, .50, .55, \dots, .95, .98, .99$$

## 2. Use of Tables

Use of the tables requires entering arguments  $c$ ,  $k$ , and  $\rho$ . The parameter  $c$ , number of boat crews, will most



likely be the design variable whose determination is the object of analysis. Estimates for the parameters  $k$  and  $\rho$  will be provided by the SAR data from the Station under study. Recommended parametric estimates, as previously discussed, are

$$\hat{\lambda} = 1/\bar{X}$$

$$\hat{k} = \bar{Y}^2/S^2 \quad \text{then rounding to nearest integer}$$

$$\hat{\beta} = \bar{Y}/\hat{k}$$

$$\hat{\mu} = 1/\hat{k}\hat{\beta}$$

$$\hat{\rho} = \hat{\lambda}/c\hat{\mu}$$

The reader is referred to Chapters II and III for discussions concerning the applicability of the SAR data base and the criteria for the determination of the homogeneous time window to satisfy the assumptions of the  $M/E_k/c$  queue.

Since results are listed for discrete values of the system intensity  $\rho$ , interpolation will undoubtedly be necessary. Since no interpolation scheme is suggested in Ref. 4, and since visual examination of the tabular entries suggests it would not be unreasonable, the linear technique is assumed.

The aforementioned measures of effectiveness are obtainable, directly or indirectly, from the tables. The probability of requiring a distress case to wait for response due to preoccupied rescue boats, otherwise called delay



probability, is listed separately at the end of each section of parametric combinations. Though interpolation for the exact value of system intensity  $\rho$  is required, this important result is otherwise available at the analyst's fingertips. Likewise, average number of cases waiting ( $L_q$ ) and average number of cases in the system ( $L$ ) are similarly accessible. Calculation of average time spent waiting for service ( $W_q$ ) and average time in the system ( $W$ ) is made possible through the well known Little's [Ref. 10] relationships

$$W_q = \frac{L_q}{\lambda} \quad \text{and} \quad W = \frac{L}{\lambda} .$$

In addition, though not directly tabulated, Hillier suggests an approximation method for estimating the distribution of waiting time  $T_q$ . The derivation is based upon the observation that an Erlang random variable with mean  $1/\mu$  may be expressed as the sum of  $k$  Exponential phases, each with mean  $1/k\mu$ , and that, when there are no idle servers, completions of service phases occur according to a Poisson Process with rate  $ck\mu$ . This leads, as discussed in Ref. 4, to the following probability distribution function.

$$P[T_q > t] = \sum_{n=c}^{\infty} P[N=n] P[D \leq k(n-c+1)-1], \quad t \geq 0$$

where  $D$  is a Poisson random variable with mean  $ck\mu t$ . Since the first term is tabulated by Hillier and Lo in Ref. 4, and



cumulative Poisson probabilities are readily obtainable, either in tabular form or through direct computation, the entire expression is easily computable.

### 3. Examples

By manner of illustration, the following two tables demonstrate the effects on system behavior resulting from varying the number of servers (boat crews) in an otherwise stable queue. Table III contains results stemming from the author's arbitrary and hypothetical selection of system parameters  $\lambda$  and  $\mu$ , while Table IV displays results produced from actual SAR data drawn from Coast Guard Station Rockaway, N.Y.

TABLE III  
Hypothetical Case

$$\lambda = 1.5/\text{hr} \quad k = 3 \quad \mu = 1.0/\text{hr}$$

	c = 2	c = 3	c = 5
MOE	$\rho = .75$	$\rho = .50$	$\rho = .30$
P[N = 0]	.139	.208	.223
P[T <sub>q</sub> > 0]	.639	.232	.020
L	2.803	1.667	1.507
L <sub>q</sub>	1.303	.167	.007
W (hrs.)	1.869	1.111	1.005
W <sub>q</sub> (hrs.)	.869	.111	.005
P[T <sub>q</sub> > .5 hrs.]	.513	.105	.004





TABLE IV

Station Rockaway
 $\lambda = 1.340/\text{hr}$        $k = 2$        $\beta = .577 \text{ hrs}$        $\mu = .867/\text{hr}$ 

	$c = 2$	$c = 3$	$c = 4$
MOE	$\rho = .77$	$\rho = .52$	$\rho = .39$
$P[N = 0]$	.128	.195	.209
$P[T_q > 0]$	.668	.256	.084
$L$	3.275	1.782	1.605
$L_q$	1.735	.222	.045
$W \text{ (hrs.)}$	2.444	1.330	1.197
$W_q \text{ (hrs.)}$	1.295	.165	.033
$P[T_q > .5 \text{ hrs.}]$	.561	.088	.008

The above tables illustrate quite graphically the effects of varying the number of servers or boat crews and could justifiably provide the SAR planner with valuable information upon which to base a decision. Given the existence of some design criterion specifying, for example, a maximum acceptable delay probability, this method of analysis would clearly indicate the minimum number of boats required to achieve it. For example, if Coast Guard policy required that the chance of a delayed response not exceed, say, .30, Table IV clearly indicates at least three boat crews would be required at Station Rockaway in order to meet that requirement during the peak load periods. Similarly, a system requirement that the average amount of time spent waiting for



service be less than some amount, say one half hour, could very simply be satisfied through ensuring that the required number of boat crews are assigned.

## C. COMPUTATIONAL METHOD

### 1. Background

In his Master's Thesis, Celayir [Ref. 5] developed a relatively simple analytic solution to the  $M/E_k/c$  queue, which has the advantage of supplying rapid, computable results without the necessity for extensive tables or sophisticated computational capability. Additionally, the method is not constrained to the discrete set of system parameters  $k$  and  $c$  covered in Lo [Ref. 4], and thus provides a valuable alternative when existing SAR data produce parameter estimates beyond the values mentioned in the previous section. Further, Celayir's results were made plausible through comparisons made with three other sources, specifically, simulation output, Hillier and Lo's [Ref. 4] tables, and observed similarities with the tractable  $M/M/c$  queue. The reader is referred to Ref. 5 for a more in-depth discussion of the derivation.

### 2. Computational Procedure

Like the previous method, system parameters  $\lambda$ ,  $k$ ,  $\beta$ ,  $\mu$ , and  $\rho$  are required for the calculations and should be estimated from the SAR data base as discussed in Chapters II and III. One additional parameter, offered load, is mentioned by Celayir and is defined as the ratio of the



arrival rate  $\lambda$  to the service rate  $\mu$  and can be expressed as the product of the number of crews  $c$  and the system intensity  $\rho$  yielding

$$\alpha = \frac{\lambda}{\mu} = c \rho .$$

It was observed by Celayir that, for equal values of system intensity  $\rho$ , delay probabilities ( $P[T_q > 0]$ ) for the  $M/E_k/c$  queue were virtually identical to those of the  $M/M/c$  queue. Thus, the delay probability for the latter system provides an excellent approximation for that of the former and is computable [Ref. 11] as

$$P[T_q > 0] = \frac{c(\lambda/\mu)^c}{c!(c\mu - \lambda)} p_0 \quad (5.1)$$

where

$$p_0 = \left[ \sum_{n=0}^{c-1} \frac{1}{n!} \left(\frac{\lambda}{\mu}\right)^n + \frac{1}{c!} \left(\frac{\lambda}{\mu}\right)^c \left(\frac{c\mu}{c\mu - \lambda}\right) \right]^{-1}$$

This expression, though in a different form, is algebraically equivalent to that presented in Ref. 5. Should this calculation prove too cumbersome, as may be the case for  $c > 4$  (although, in this application, a Station is rarely billeted for more than three boat crews), Appendix B contains two charts which provide delay probabilities for the  $M/M/c$  queue given the offered load  $\alpha$  as the entering argument. Either of these two methods provides a convenient and accurate



approximation, without the need for interpolation, for the probability a distress case will need to wait for an idle boat crew.

An approximation for the average number of vessels waiting for service,  $L_q$ , is derived in Ref. 5 and is based upon extensions of the theoretical work in Lo [Ref. 4]. The formula stems from Hillier and Lo's approximation

$$L_q = \frac{1}{2}(1 + g) \left(1 + \frac{1}{k}\right) L_{q_1}$$

where  $L_{q_1}$  is the average queue length for the corresponding M/M/c queue and the function  $g$  is a multiplicative correction factor developed by Lo [Ref. 4] to be applied in the computation of  $L_q$  when extrapolating the tabular results for large values of the parameters  $k$  or  $c$ . But, for smaller values of system parameters  $k$  and  $c$ ,  $g$  tends to zero. Noting this and the fact that  $L_{q_1}$  may be simply expressed as a function of the previously derived delay probability, that is

$$\begin{aligned} L_{q_1} &= \frac{(\lambda/\mu)^c \lambda \mu}{(c-1)!(c\mu-\lambda)^2} p_0 \\ &= \frac{\lambda}{c\mu-\lambda} \cdot P[T_q > 0], \end{aligned}$$

the average queue length may then be written as

$$L_q = \frac{1}{2} \left(1 + \frac{1}{k}\right) \left(\frac{\lambda}{c\mu-\lambda}\right) \cdot P[T_q > 0].$$





It then follows, again using Little's [Ref. 10] relationship, that the average time spent waiting for an available crew equals

$$\begin{aligned} W_q &= \frac{L_q}{\lambda} \\ &= \frac{1}{2} \left(1 + \frac{1}{k}\right) \left(\frac{1}{c\mu - \lambda}\right) \cdot P[T_q > 0] . \end{aligned}$$

The average number  $L$  of cases in the system at any time and the average time  $W$  spent in the system are then expressable as

$$L = L_q + \frac{\lambda}{\mu}$$

and

$$W = W_q + \frac{1}{\mu} = \frac{L}{\lambda} .$$

Thus, given system parameters  $\lambda$ ,  $k$ ,  $\mu$ , and  $c$  and having obtained the delay probability  $P[T_q > 0]$ , approximations for average number waiting, average time spent waiting, average number in system, and average time in system are all easily computable.

Finally, Celayir [Ref. 5] proposes a direct method of calculating the probability that the duration of a distressed vessel's wait exceeds a specified length of time.



He suggests that the cumulative distribution function (CDF) of waiting times  $T_q$  is

$$F_{T_q}(t) = 1 - P[T_q > 0] e^{-bt}, \quad t \geq 0$$

where

$$b = \frac{2cu(1-\rho)}{1 + \frac{1}{k}}.$$

The interested reader is referred to his work for an explanation of the derivation. One should note however, that all component parts of the expression are obtainable as previously described. If the SAR planner, for example, wished to know the probability that a potential case would have to wait longer than one hour for an available Coast Guard response, he would need only to compute

$$P[T_q > 0] e^{-b}.$$

Similarly, should he wish to know the chances that an arriving case might wait longer than one hour but less than two, the expression

$$P[T_q > 0] (e^{-b} - e^{-2b})$$

would provide the answer. It should be emphasized that, while Celayir [Ref. 5] showed that results obtained using



this expression compared quite favorably with those from his simulation and from Hillier and Lo's tables, considerably less effort was required to compute his formulas.

### 3. Examples

The following two examples are presented to provide a comparison with Tables III and IV. All relevant system parameters were held constant.

TABLE V  
Hypothetical Case

	$\lambda = 1/5/\text{hr.}$	$k = 3$	$\mu = 1.0/\text{hr.}$	
		$c = 2$	$c = 3$	$c = 5$
		$\rho = .75$	$\rho = .50$	$\rho = .30$
MOE		$\alpha = 1.50$	$\alpha = 1.50$	$\alpha = 1.50$
$P[T_q > 0]$		.642	.238	.019
$L$		2.784	1.659	1.505
$L_q$		1.284	.159	.005
$W$ (hrs.)		1.856	1.106	1.003
$W_q$ (hrs.)		.856	.106	.003
$P[T_q > .5 \text{ hrs.}]$		.441	.077	.001



TABLE VI

<u>Station Rockaway</u>			
$\lambda = 1.340/\text{hr.}$	$k = 2$	$\beta = .577 \text{ hrs.}$	$\mu = .867/\text{hr.}$
	$c = 2$	$c = 3$	$c = 4$
	$\rho = .77$	$\rho = .52$	$\rho = .39$
MOE	$\alpha = 1.54$	$\alpha = 1.56$	$\alpha = 1.56$
$P[T_q > 0]$	.669	.254	.077
$L$	3.252	1.749	1.582
$L_q$	1.706	.203	.036
$W \text{ (hrs.)}$	2.427	1.305	1.181
$W_q \text{ (hrs.)}$	1.273	.151	.027
$P[T_q > .5 \text{ hrs.}]$	.513	.195	.019

As can be seen, Tables V and VI resulting from calculations using Celayir's method compare quite favorably with the figures in Tables III and IV. Certainly, in the context of providing the SAR planner with a guide with which to compare the relative performance of a Search and Rescue Station given various numbers of boat crews, both methods are of great utility.

#### D. PRIORITY CONSIDERATIONS

The reader is reminded that the queueing techniques applied thus far have assumed the FIFO priority discipline. This assumption may carry with it far reaching ramifications, for, in practice, resources are assigned to distress cases according to a continuous priority scale. Each arriving





case is evaluated and assessed as to its severity relative to other active cases. If, in the judgement of the Cognizant Rescue Coordination Center, the newly arrived distress case provides a greater or more imminent threat to life or property than other vessels currently being assisted, ongoing assistance will be terminated and that resource redirected towards the more urgent situation. A possible scenario fitting this description might be a Coast Guard ULB diverting from retrieving a disabled pleasure craft at anchor in a protected waterway in favor of rendering assistance to a vessel on fire or in danger of going aground.

#### 1. Background

Extensive theoretical work concerning the inclusion of priority schemes other than first come first served exists, but most is concentrated on the more common M/M/1 queue, that is single server with Exponential service. Extensions to systems involving multiple servers and service distributions other than Exponential are rare as well as extremely complex, and clearly stand as an area for further research. The most thorough treatment encountered by the author can be found in Jaiswal [Ref. 12], and the reader is referred there for a proper initiation into the subject. By way of an overview, however, the following discussion is provided.

When considering priority schemes other than FIFO, arrivals are usually thought to belong to one of several



priority classes. Prior to the saturation of idle servers, customers are served as they arrive. Once all servers are busy, however, customers assume a place in the queue according to their priority class, the customers belonging to the higher priority classes moving ahead of those in lower classes. It can be seen, then, that the potential exists for customers of a low priority class to be bumped indefinitely. The nature of the priority discipline may be further refined by considering whether priorities are preemptive or non-preemptive. In the latter, an arriving customer belonging to say the highest priority class will move to the front of the queue and wait for the next available server even if customers of a lower class are currently in service. If, however, the priority scheme is said to be preemptive, current service on a lower priority customer will be terminated upon the arrival of a customer belonging to a higher priority class. In the context of a Coast Guard SAR Station, distress cases would be considered as having preemptive priorities with the capability of interrupting ongoing assistance to a case belonging to a lower class.

## 2. Two Priority Class Case

It has been suggested by personnel from the Search and Rescue Branch that two priority classes, labeled serious and routine, would suffice. This designation arises from information regarding the severity of a case recorded, after the fact, on Ref. 1, and therefore contained in the SAR data base. Thus, separate arrival rates and candidate descriptive



distributions for both classes are readily obtainable. While this type of analysis is a gross approximation to the continuous set of actual priority classes, it would probably provide an improvement over considering the FIFO discipline alone.

While the complexities introduced by priority considerations create a considerable barrier in obtaining exact solutions to the  $M/E_k/c$  queue, one important measure of effectiveness, the delay probability, is somewhat tractable. If one were to restrict the number of priority classes to two, for instance, estimates for the delay probability for both are derived for the cases  $c = 1$  and  $c = 2$ .

Considering first the case of the higher priority or serious class of distress cases, the direct application of techniques discussed in Chapters II, III, and V is in order. This stems from the observation that, given the preemptive priority discipline, a server occupied with a routine case is identical, from the point of view of an arriving serious case, to an idle server. Thus, the analyst could determine the delay probability of a serious case by considering only the arrivals and service times of cases belonging to that class from the initial data base, and then proceeding as before, while ignoring all routine cases. This would involve fitting this abbreviated data to arrival and service distributions, and then calculating the desired quantities from the resultant queueing system. Although unable to confirm





it (available data contains no more than six serious arrivals per Station), the author has seen no evidence to suggest that the  $M/E_k/c$  system would not again be appropriate.

The question of the delay probability for the non-serious or routine case presents a somewhat more complicated problem arising from the fact that a routine case might be delayed even after its service has begun. Specifically, if all servers are busy, an arriving serious case could preempt service on a routine case with the latter assuming a place in the queue at the front of other cases belonging to the same class. The derivations that follow require the introduction of some new notation.

$D$  = total delay time for a routine case;

$D_1$  = initial delay encountered by a routine case upon arrival before its service begins;

$D_2$  = subsequent delay due to one or more preemptions from service by a newly arriving serious case;

$N$  = number in system at time of routine case's arrival;

$N_R$  = number of routine cases in system at time of new routine case's arrival;

$A_S$  = number of new serious cases arriving during service time of a routine case.

#### a. Single Server System

The case where there is only one server available is considered first. Noting that

$$D = D_1 + D_2$$





for a routine case, the chance of delay can be expressed as

$$\begin{aligned}
 P[D > 0] &= 1 - P[D = 0] \\
 &= 1 - P[D_1 + D_2 = 0] \\
 &= 1 - P[D_1 = 0, D_2 = 0] \\
 &= 1 - P[D_2 = 0 | D_1 = 0] P[D_1 = 0] .
 \end{aligned}$$

Since the initial delay  $D_1$  is exactly the delay that may occur in a FIFO (one priority) system,  $P[D_1 = 0]$  is simply one minus the delay probability,  $P[T_q > 0]$ , as calculated in the previous two sections, either through use of the tables in Appendix A, through direct computation using Equation 5.1, or from the charts in Appendix B. Further, the conditional probability of no delay given no initial delay is

$$\begin{aligned}
 P[D_2 = 0 | D_1 = 0] &= \int_0^{\infty} e^{-\lambda_S x} f_Y(x) dx \\
 &= \left( \frac{1/\beta}{1/\beta + \lambda_S} \right)^k .
 \end{aligned}$$

The equality follows from the assumption of Poisson arrivals, with rate  $\lambda_S$ , of serious cases, and recognition of the integral as the Laplace Transform of the Erlang PDF  $f(x)$ .

The final form for the delay probability is then



$$P[D > 0] = 1 - \left( \frac{\frac{1}{\beta}}{\frac{1}{\beta} + \lambda_S} \right)^k (1 - P[T_q > 0]) .$$

#### b. Two Server System

While extension to allow multiple servers is beyond the scope of this thesis, a tractable result for the case where there are only two servers in the system is presented here, although the early part of the derivation is carried out for general  $c$ . As before,

$$P[D > 0] = 1 - P[D = 0] .$$

Conditioning on the total number of cases in the system at the time of the routine case's arrival yields

$$P[D = 0] = \sum_{i=0}^{c-1} P[D = 0 | N = i] P[N = i] \quad (5.2)$$

The second factor is merely the steady state system size distribution which has been conveniently tabulated in Ref. 4 and is contained in Appendix A. Now consider

$$P[D = 0 | N = i] = \sum_{r=0}^i P[D = 0 | N_R = r, N = i] P[N_R = r | N = i]. \quad (5.3)$$

In this expression, the second factor under the summation can be recognized as the probability of  $r$  routine cases out of  $i$  total cases currently in service. Since the



probability that any one case is routine or serious is

$\lambda_R/(\lambda_R+\lambda_S)$  or  $\lambda_S/(\lambda_R+\lambda_S)$  respectively,

$$P[N_R = r | N = i] = \binom{i}{r} \left( \frac{\lambda_R}{\lambda_R + \lambda} \right)^r \left( \frac{\lambda}{\lambda_R + \lambda_S} \right)^{i-r},$$

$$r = 0, 1, \dots, i;$$

$$i = 0, 1, \dots, c-1.$$

The first factor is more difficult, however, and requires further conditioning on the number of serious case arrivals during a routine service period:

$$P[D = 0 | N_R = r, N = i] = \sum_{j=0}^{\infty} P[D = 0 | A_S = j, N_R = r, N = i] \quad (5.4)$$

$$\times P[A_S = j | N_R = r, N = i].$$

Since arrivals are assumed to be independent of the status of the system,

$$P[A_S = j | N_R = r, N = i] = P[A_S = j].$$

Assuming the previous distributional assumptions hold, that is serious cases arrive in a Poisson fashion with rate  $\lambda_S$  and the Erlang  $(k, \beta)$  distribution is appropriate to describe the service times,



$$P[A_S = j] = \int_0^{\infty} P[A_S = j | Y = x] f_Y(x) dx$$

Since

$$P[A_S = j | Y = x] = e^{-\lambda_S x} \frac{(\lambda_S x)^j}{j!}$$

and  $f_Y(x)$  was given in Equation (3.1),

$$P[A_S = j] = \binom{k+j-1}{j} p^k q^j \quad (5.5)$$

where

$$p = \left( \frac{\frac{1}{\beta}}{\frac{1}{\beta} + \lambda_S} \right) \quad \text{and} \quad q = \left( \frac{\lambda_S}{\frac{1}{\beta} + \lambda_S} \right) .$$

The resultant expression can be recognized as a Negative Binomial PDF although that fact will not be exploited here.

Since this derivation is restricted to the case of two servers, possible values of  $i$  in formula (5.4) are limited to zero and one, allowing enumeration of all possible combinations. For  $i = 0$ ,  $r = 0$  is the only possibility. Then

$$P[D = 0 | A_S = j, N_R = 0, N = 0] = \begin{cases} 1 & \text{if } j = 0, 1 \\ (p^k)^{j-1} & \text{if } j \geq 2 \end{cases}$$





because if no serious case or only one serious case arrives during the routine case's service time, his service will be completed uninterrupted. If, however, more than one serious case arrives during his service time, his service will be uninterrupted only if the second serious case arrives after the completion of service of the first serious case and the third serious case arrives after completion of service of the second serious case, etc. The assumption that serious cases arrive in a Poisson Process at rate  $\lambda_S$  implies that the probability of a serious case's service completing prior to the next serious arrival is

$$p^k = \left( \frac{\frac{1}{\beta}}{\frac{1}{\beta} + \lambda_S} \right)^k$$

since a service time is the sum of  $k$  Exponential phases, each with mean duration  $\beta$ . Then Equation (5.4) with  $i = 0$  and  $r = 0$  becomes

$$P[D = 0 | N_R = 0, N = 0] = P[A_S = 0] + \sum_{j=1}^{\infty} (p^k)^{j-1} P[A_S = j] \quad (5.6)$$

Next letting  $i = 1$  and  $r = 0$

$$P[D = 0 | A_S = j, N_R = 0, N = 1] = \begin{cases} 1 & \text{if } j = 0 \\ P[S \leq T] (p^k)^{j-1} & \text{if } j \geq 1 \end{cases}$$



where S equals the time to completion of remaining service of the active serious case and T equals the time to the first serious case's arrival. This expression is explained as follows. If no serious case arrives, no interruption of service occurs. If, however, one or more serious cases arrive, the routine case's service will be uninterrupted only if the first serious case arrives after completion of the currently served serious case's remaining service time and each new serious case arrives after the completion of service on the previous serious case. Therefore, Equation (5.4) with  $i = 1, r = 0$  is

$$P[D = 0 | N_R = 0, N = 1] = P[A_S = 0] + P[S \leq T] \sum_{j=1}^{\infty} (p^k)^{j-1} P[A_S = j]. \quad (5.7)$$

Now, letting  $i = 1$  and  $r = 1$ ,

$$P[D = 0 | A_S = j, N_R = 1, N = 1] = \begin{cases} 1 & \text{if } j = 0 \\ (\frac{1}{2}P[S > T] + P[S \leq T](p^k)^{j-1}) & \text{if } j \geq 1 \end{cases}$$

Again, no service interruptions can occur if no serious case arrives. If exactly one serious case arrives, service can continue uninterrupted only if the other routine case either remains in service until the serious case arrives and then absorbs the resultant preemption (with probability one half), or if he completes his remaining service prior to the



serious case's arrival. All subsequent serious cases must then arrive after the preceeding serious case has completed an entire service period. Therefore, when  $i = 1, r = 1$ , Equation (5.4) becomes

$$P[D = 0 | N_R = 1, N = 1] = P[A_S = 0] + \left(\frac{1}{2}P[S > T] + P[S \leq T]\right) \sum_{j=1}^{\infty} (p^k)^{j-1} P[A_S = j] \quad (5.8)$$

It can be shown that

$$\sum_{j=1}^{\infty} (p^k)^{j-1} P[A_S = j] = \frac{1}{(1 - p^k q)^k} - 1 \quad (5.9)$$

and

$$P[S \leq T] = \frac{1}{\bar{k}\beta} [1 - p^k] . \quad (5.10)$$

The derivations are included as Appendix C.

The means now exist to calculate the delay probability for a routine case in a two server system. First, however, it will be convenient to adopt the following simplifying notation:

$$\pi_0 = P[N = 0]$$

$$\pi_1 = P[N = 1]$$



$$Q_0 = P[A_S = 0] = p^k$$

$$Q_1 = \sum_{j=1}^{\infty} (p^k)^{j-1} P[A_S = j] = \frac{1}{(1 - p^{kq})^k} - 1$$

$$Q_2 = P[S \leq T] = \frac{1}{\lambda_S} \frac{k\beta}{\lambda_S} (1 - p^k)$$

Then for  $c = 2$ , Equation (5.2) yields

$$P[D = 0] = P[D = 0 | N = 0] \pi_0 + P[D = 0 | N = 1] \pi_1$$

Now, from Equations (5.3) and (5.6), it's easy to see that, for the two server case

$$P[D = 0 | N = 0] = Q_0 + Q_1$$

and further that, using Equations (5.3), (5.7), and (5.8),

$$\begin{aligned} P[D = 0 | N = 1] &= [Q_0 + Q_1 Q_2] q + \{Q_0 + [\frac{1}{2}(1 - Q_2) + Q_2] Q_1\} p \\ &= qQ_0 + (1-p)Q_1 Q_2 + pQ_0 + \frac{1}{2}pQ_1 + \frac{1}{2}pQ_1 Q_2 \\ &= Q_0 + \frac{1}{2}pQ_1 + (1 - \frac{1}{2}p)Q_1 Q_2 \end{aligned}$$

yielding

$$P[D = 0] = (Q_0 + Q_1) \pi_0 + (Q_0 + \frac{1}{2}pQ_1 + (1 - \frac{1}{2}p)Q_1 Q_2) \pi_1 ,$$





Finally then,

$$\begin{aligned}
 P[D > 0] &= 1 - P[D = 0] \\
 &= 1 - [(Q_0 + Q_1)\pi_0 + (Q_0 + \frac{1}{2}pQ_1 + (1 - \frac{1}{2}p)Q_1Q_2)\pi_1].
 \end{aligned}
 \tag{5.11}$$

### c. Example

The following example is provided to illustrate the computational procedure required to obtain this delay probability. Parameter values, though hypothetical, were chosen so as to provide realistic estimates of those encountered in the course of this thesis.

$$\begin{aligned}
 \lambda_R &= 1.0/\text{hr.} & \lambda_S &= .05/\text{hr.} & \beta &= .5 \text{ hrs.} \\
 k &= 2 & c &= 2 & \mu &= \frac{1}{k\beta} = 1 & \rho &= \frac{\lambda}{c\mu} = .5
 \end{aligned}$$

The values of the components of Equation (5.11) are provided below.

$$p = \frac{\frac{1}{\beta}}{\frac{1}{\beta} + \lambda_S} = .9756$$

$$\pi_0 = .3308 \quad (\text{from Appendix A})$$

$$\pi_1 = .3383 \quad (\text{from Appendix A})$$



$$Q_0 = p^k = .9518$$

$$Q_1 = \sum_{j=1}^{\infty} (p^k)^{j-1} P[A_S \leq j] = .0005$$

$$Q_2 = P[S \leq T] = .9640$$

Direct substitution yields

$$\begin{aligned} P[D > 0] &= 1 - \{[(.9518 + .0005)](.3303) + [.9518 + \frac{1}{2}(.9756)] \\ &\quad \times (.0005) + (1 - \frac{1}{2}(.9756))(.0005)(.9640)](.3383)\} \\ &= .3629 \end{aligned}$$

It is interesting to compare this result with that obtained using the same parameters but considering only a FIFO priority discipline. The delay probability for the single priority case, as taken from the charts in Appendix B, is only .1750, substantially less than that for a routine case in a two priority system. But this is to be expected, as it is a reflection of the opportunity for additional delay introduced by the possibility of bumping in the queue and preemption from service.



## VI. CONCLUSIONS

### A. DISCUSSION

The results presented in this thesis provide the machinery to conduct a sound comparative analysis of the merits of differing boat crew allocation schemes. Investigation of Tables III, IV, V, and VI shows quite dramatically the improvement in the various measures of system performance brought about by increasing the number of available servers. These results are obtainable without great computational capability or familiarity with the underlying mathematical theory. The use of one or the other of the two methods presented is a matter of user preference. In addition, these techniques suggest the development of system standards by which proposed crew allocations could be deemed acceptable or unacceptable. Such a project would be a more appropriate task for staff members of the Search and Rescue Branch at Coast Guard Headquarters.

### B. RECOMMENDATIONS FOR FURTHER RESEARCH

This thesis leaves some fairly obvious avenues for future work, the first being the extension to the general case of  $c$  servers. Perhaps, by first allowing three servers, the results might not only be tractable but could suggest an extension to allow any number of boat crews. Another area for further work would be to increase the number of priority classes. As previously discussed, boat crews are actually



assigned according to a continuous priority scheme, with each arriving case being assessed as to its severity relative to other active cases. While the two class case studied in this thesis is an improvement over a simple FIFO discipline, it still represents a gross simplification and could be improved upon. Finally, the computational techniques presented herein raise the possibility of the creation of an interactive computer package designed to supply some or all MOE's at the touch of a computer keyboard. Though not complicated individually, the sheer volume of computations make hand calculation tedious at best.

### C. PRIORITY CONSIDERATIONS

Considering the utility of approximating the actual priority discipline employed by an RCC controller, and of applying, consequently, the methods proposed herein, the point of view of the SAR planner must be considered. The consequence, in terms of loss of life and property, of a failure on the part of the Coast Guard to provide a ready, available rescue response in the event of a serious case is far more grave than for that of a routine case. A fishing boat out of gas in a protected bay can tolerate an hour's delay far better than a vessel on fire or taking on water and in danger of sinking. Keeping this in mind, and observing from the data that cases of a serious nature are the rare exception rather than the rule, the two priority class assumption leads to a conservative estimate of probable





system performance from the point of view of the truly serious case. In other words, the actual likelihood that a distress case requiring rapid emergency response would not receive immediate attention will always be less than that predicted by the queueing techniques described in this work. This conservative posture, then, provides an upper bound or worst case prediction for the serious arrival, and therefore justifies its implementation until such time as continuous priority considerations might be properly integrated into the solution methods.



## APPENDIX A

TABLE I

STEADY-STATE DISTRIBUTION AND MEAN OF NUMBER IN SYSTEM  
FOR VARIOUS  $M/E_k/c$  SYSTEMS

Notation:

$N$	=	the number of customers in the system (including those being served) in steady state (a random variable).
STATE I	=	the condition of having $N = I$ .
$P(N = I)$	=	probability that $N = I$
$P(N \leq I)$	=	$P(N \leq I)$ .
RHO	=	$\rho$ , the traffic intensity.
$P(\text{DELAY})$	=	$P(N \geq c) = P(T_q > 0)$ , the probability that an arriving customer cannot begin service immediately.
$L(\text{GIVEN } K)$	=	$L = E[N]$ , the expected number of customers in the system.
$LQ(\text{GIVEN } K)$	=	$L_q = E[N] - c\rho$ , the expected number of customers in the queue (excluding those being served).
$(LQ \text{ FOR } K = 1)$	=	$L_q(k = 1)$ , the value of $L_q$ for the corresponding $M/M/c$ system.
RATIO	=	$L_q / (L_q(k = 1))$ .



M = 1, K = 2, C = 2, AMU = 1.10										M = 1, K = 2, C = 2, AMU = 3.65									
STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)
0	0.0180953	0.0180953	7	3.422726*-08	0.9999999	0	0.2091953	0.2091953	13	0.0004976531	0.9993390	0	0.0180953	0.0180953	7	3.422726*-08	0.9999999	0	0.2091953
1	0.1638093	0.0819046	8	2.293067*-09	0.9999999	1	0.2161604	0.2161604	14	0.0002836993	0.9994229	1	0.1638093	0.0819046	8	2.293067*-09	0.9999999	1	0.2161604
2	0.01606246	0.9985071	9	1.666026*-12	0.9999999	2	0.2037277	0.2037277	15	0.0001615569	0.9997849	2	0.01606246	0.9985071	9	1.666026*-12	0.9999999	2	0.2037277
3	0.001380670	0.9998878	10	0.422700*-12	0.9999999	3	0.1273934	0.1273934	16	9.239187*-05	0.9998173	3	0.001380670	0.9998878	10	0.422700*-12	0.9999999	3	0.1273934
4	0.0001062339	0.9999920	11	0.021585*-13	0.9999999	4	0.07592701	0.07592701	17	3.270691*-05	0.9999300	4	0.0001062339	0.9999920	11	0.021585*-13	0.9999999	4	0.07592701
5	7.431826*-06	0.9999994	12	3.627586*-14	0.9999999	5	0.04180632	0.04180632	18	3.006776*-05	0.9999300	5	7.431826*-06	0.9999994	12	3.627586*-14	0.9999999	5	0.04180632
6	5.107519*-07	0.9999999	13	2.421180*-15	0.9999999	6	0.02517093	0.02517093	19	1.715279*-05	0.9999772	6	5.107519*-07	0.9999999	13	2.421180*-15	0.9999999	6	0.02517093
M = 1, K = 2, C = 2, AMU = 3.20										M = 1, K = 2, C = 2, AMU = 0.70									
STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)
0	0.0661839	0.0661839	9	8.737106*-08	0.9999999	0	0.1735995	0.1735995	14	0.0008498803	0.9995703	0	0.0661839	0.0661839	9	8.737106*-08	0.9999999	0	0.1735995
1	0.2676321	0.9331660	10	1.209427*-08	0.9999999	1	0.2528088	0.2528088	15	0.0005330306	0.9991032	1	0.2676321	0.9331660	10	1.209427*-08	0.9999999	1	0.2528088
2	0.05507050	0.9888865	11	1.668431*-09	0.9999999	2	0.1987999	0.1987999	16	0.0003363073	0.9994673	2	0.05507050	0.9888865	11	1.668431*-09	0.9999999	2	0.1987999
3	0.009391174	0.9982777	12	2.296409*-10	0.9999999	3	0.1356965	0.1356965	17	0.0002056716	0.9994673	3	0.009391174	0.9982777	12	2.296409*-10	0.9999999	3	0.1356965
4	0.001467140	0.9997649	13	1.155967*-11	0.9999999	4	0.0886908	0.0886908	18	0.0001315023	0.9997787	4	0.001467140	0.9997649	13	1.155967*-11	0.9999999	4	0.0886908
5	0.0002183422	0.9999632	14	3.322884*-12	0.9999999	5	0.05062613	0.05062613	19	8.247585*-05	0.9998612	5	0.0002183422	0.9999632	14	3.322884*-12	0.9999999	5	0.05062613
6	1.155814*-05	0.9999948	15	9.944691*-13	0.9999999	6	0.03536784	0.03536784	20	5.172736*-05	0.9999810	6	1.155814*-05	0.9999948	15	9.944691*-13	0.9999999	6	0.03536784
7	4.781227*-06	0.9999992	16	6.194200*-14	0.9999999	7	0.02222463	0.02222463	21	3.264266*-05	0.9999654	7	4.781227*-06	0.9999992	16	6.194200*-14	0.9999999	7	0.02222463
8	6.279455*-07	0.9999999	17	1.117672*-14	0.9999999	8	0.01355335	0.01355335	22	2.034732*-05	0.9999657	8	6.279455*-07	0.9999999	17	1.117672*-14	0.9999999	8	0.01355335
M = 1, K = 2, C = 2, AMU = 3.30										M = 1, K = 2, C = 2, AMU = 3.75									
STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)
0	0.5373228	0.5373228	9	3.833466*-08	0.9999999	0	0.1735995	0.1735995	14	0.0008498803	0.9995703	0	0.5373228	0.5373228	9	3.833466*-08	0.9999999	0	0.1735995
1	0.3253544	0.8626772	10	8.483900*-07	0.9999997	1	0.2528088	0.2528088	15	0.0005330306	0.9991032	1	0.3253544	0.8626772	10	8.483900*-07	0.9999997	1	0.2528088
2	0.1020262	0.9647398	11	1.874560*-07	0.9999999	2	0.1987999	0.1987999	16	0.0003363073	0.9994673	2	0.1020262	0.9647398	11	1.874560*-07	0.9999999	2	0.1987999
3	0.02679804	0.9915378	12	1.437880*-08	0.9999999	3	0.1356965	0.1356965	17	0.0002056716	0.9994673	3	0.02679804	0.9915378	12	1.437880*-08	0.9999999	3	0.1356965
4	0.006052915	0.9986047	13	1.228464*-09	0.9999999	4	0.0886908	0.0886908	18	0.0001315023	0.9997787	4	0.006052915	0.9986047	13	1.228464*-09	0.9999999	4	0.0886908
5	0.001514707	0.9995555	14	2.013180*-09	0.9999999	5	0.05062613	0.05062613	19	8.247585*-05	0.9998612	5	0.001514707	0.9995555	14	2.013180*-09	0.9999999	5	0.05062613
6	0.0003468478	0.9999003	15	4.388858*-10	0.9999999	6	0.03536784	0.03536784	20	5.172736*-05	0.9999810	6	0.0003468478	0.9999003	15	4.388858*-10	0.9999999	6	0.03536784
7	7.748081*-05	0.9999778	16	9.786664*-11	0.9999999	7	0.02222463	0.02222463	21	3.264266*-05	0.9999654	7	7.748081*-05	0.9999778	16	9.786664*-11	0.9999999	7	0.02222463
8	1.727391*-05	0.9999951	17	2.157305*-11	0.9999999	8	0.01355335	0.01355335	22	2.034732*-05	0.9999657	8	1.727391*-05	0.9999951	17	2.157305*-11	0.9999999	8	0.01355335
M = 1, K = 2, C = 2, AMU = 3.40										M = 1, K = 2, C = 2, AMU = 3.80									
STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)
0	0.2664958	0.2664958	11	5.502835*-06	0.9999975	0	0.1735995	0.1735995	14	0.0008498803	0.9995703	0	0.2664958	0.2664958	11	5.502835*-06	0.9999975	0	0.1735995
1	0.3466083	0.7733041	12	1.715817*-06	0.9999992	1	0.2528088	0.2528088	15	0.0005330306	0.9991032	1	0.3466083	0.7733041	12	1.715817*-06	0.9999992	1	0.2528088
2	0.1474768	0.9207790	13	5.368795*-07	0.9999997	2	0.1987999	0.1987999	16	0.0003363073	0.9994673	2	0.1474768	0.9207790	13	5.368795*-07	0.9999997	2	0.1987999
3	0.05303043	0.9738094	14	1.667198*-07	0.9999999	3	0.1356965	0.1356965	17	0.0002056716	0.9994673	3	0.05303043	0.9738094	14	1.667198*-07	0.9999999	3	0.1356965
4	0.01776870	0.9915781	15	5.196246*-08	0.9999999	4	0.0886908	0.0886908	18	0.0001315023	0.9997787	4	0.01776870	0.9915781	15	5.196246*-08	0.9999999	4	0.0886908
5	0.005752273	0.9973308	16	1.194646*-08	0.9999999	5	0.05062613	0.05062613	19	8.247585*-05	0.9998612	5	0.005752273	0.9973308	16	1.194646*-08	0.9999999	5	0.05062613
6	0.001829739	0.9991606	17	5.047255*-09	0.9999999	6	0.03536784	0.03536784	20	5.172736*-05	0.9999810	6	0.001829739	0.9991606	17	5.047255*-09	0.9999999	6	0.03536784
7	0.0005756236	0.9997371	18	1.573004*-09	0.9999999	7	0.02222463	0.02222463	21	3.264266*-05	0.9999654	7	0.0005756236	0.9997371	18	1.573004*-09	0.9999999	7	0.02222463
8	0.0001807388	0.9999178	19	4.902321*-10	0.9999999	8	0.01355335	0.01355335	22	2.034732*-05	0.9999657	8	0.0001807388	0.9999178	19	4.902321*-10	0.9999999	8	0.01355335
9	5.650712*-05	0.9999743	20	1.527821*-10	0.9999999	9	0.0086908	0.0086908	23	1.726806*-06	0.9999918	9	5.650712*-05	0.9999743	20	1.527821*-10	0.9999999	9	0.0086908
10	1.764075*-05	0.9999920	21	4.761466*-11	0.9999999	10	0.004685909	0.004685909	24	1.478797*-05	0.9999612	10	1.764075*-05	0.9999920	21	4.761466*-11	0.9999999	10	0.004685909
M = 1, K = 2, C = 2, AMU = 3.50										M = 1, K = 2, C = 2, AMU = 3.90									
STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)
0	0.3308271	0.3308271	12	3.093320*-05	0.9999785	0	0.1735995	0.1735995	14	0.0008498803	0.9995703	0	0.3308271	0.3308271	12	3.093320*-05	0.9999785	0	0.1735995
1	0.3383458	0.6691129	13	1.268676*-05	0.9999912	1	0.2528088	0.2528088	15	0.0005330306	0.9991032	1	0.3383458	0.6691129	13	1.268676*-05	0.9999912	1	0.2528088
2	0.1831766	0.8523496	14	5.203056*-06	0.9999964	2	0.1987999	0.1987999	16	0.0003363073	0.9994673	2	0.1831766	0.8523496	14	5.203056*-06	0.9999964	2	0.1987999
3	0.08459699	0.9369494	15	2.133796*-06	0.9999989	3	0.1												





STATE I	PIN(=)	PINC(=)	STATE I	PIN(=)	PINC(=)	STATE I	PIN(=)	PINC(=)	STATE I	PIN(=)	PINC(=)
0	0.05116652	0.05116652	19	0.31051189	0.0298702	18	3.3037799400	0.9950635	17	5.2084961-05	0.9996525
1	0.09766692	0.1488335	20	0.009141621	0.9390119	19	3.3008434866	0.9997070	18	4.52295511-05	0.9996978
2	0.1025625	0.2513760	21	0.007949989	0.949618	20	0.007559081	0.9902666	19	3.9391111-05	0.9997372
3	0.09697939	0.362734	22	0.006913664	0.9538755	21	0.0008486596	0.9997532	20	3.6256361-05	0.9997714
4	0.08636286	0.4306363	23	0.006021462	0.9598800	22	0.0004232221	0.9971765	21	2.3790931-05	0.9998012
5	0.07396452	0.5065859	24	0.005227271	0.9651167	23	0.0003680536	0.9975445	22	2.5007591-05	0.9998271
6	0.06669637	0.5690602	25	0.004567138	0.9696639	24	0.0002300767	0.9978466	23	2.2530451-05	0.9998497
7	0.05614531	0.6252255	26	0.003954637	0.9736183	25	0.0002783537	0.9981340	24	1.9593531-05	0.9998692
8	0.04886477	0.6740703	27	0.003364938	0.9770572	26	0.0002260694	0.9983850	25	1.7039651-05	0.9998863
9	0.04246337	0.7165337	28	0.002808019	0.9800479	27	0.0002105149	0.9985955	26	1.4818311-05	0.9999011
10	0.03696781	0.755010	29	0.002260819	0.9826447	28	0.0001830736	0.9987786	27	1.2686701-05	0.9999160
11	0.03213614	0.7856327	30	0.002261794	0.9849105	29	0.0001592096	0.9989378	28	1.1208071-05	0.9999252
12	0.02796337	0.8135760	31	0.001986962	0.9868774	30	0.0001384560	0.9990762	29	9.7460261-06	0.9999350
13	0.02430092	0.8378770	32	0.001710563	0.9889680	31	0.0001200478	0.9991966	30	7.4756011-06	0.9999434
14	0.02113323	0.8590102	33	0.001467585	0.9900754	32	0.0001047122	0.9993014	31	7.3707801-06	0.9999508
15	0.01837866	0.8773887	34	0.001293674	0.9913892	33	9.1062711-05	0.9993924	32	6.4099751-06	0.9999572
16	0.01598277	0.8933714	35	0.001125504	0.9924663	34	7.9192401-05	0.9994717	33	5.5744121-06	0.9999628
17	0.01389936	0.9072708	36	0.0009783870	0.9934727	35	6.8864341-05	0.9995405	34	4.8477721-06	0.9999696
18	0.01208754	0.9193583	37	0.0008508512	0.9943236	36	5.9872071-05	0.9996004	35	4.2150501-06	0.9999719

STATE I	PIN(=)	PINC(=)	STATE I	PIN(=)	PINC(=)	STATE I	PIN(=)	PINC(=)	STATE I	PIN(=)	PINC(=)
0	0.02484370	0.02484370	36	0.006069674	0.9142820	72	0.0005193714	0.9926407	108	4.4592061-05	0.9993681
1	0.035031259	0.07515069	37	0.005650859	0.9199328	73	0.0004851513	0.9931239	109	4.1652381-05	0.9994098
2	0.03628954	0.134458	38	0.005278330	0.9252111	74	0.0004530161	0.9935790	110	3.8006501-05	0.9994487
3	0.035970797	0.1817538	39	0.00493062	0.9301415	75	0.0004232936	0.9940023	111	3.6341681-05	0.9994850
4	0.03507614	0.2402299	40	0.004605334	0.9347649	76	0.0003953883	0.9943977	112	3.3946551-05	0.9995150
5	0.04992024	0.2901502	41	0.004301736	0.9390646	77	0.0003693230	0.9947670	113	3.1707601-05	0.9995472
6	0.04676172	0.3360919	42	0.004018147	0.9430647	78	0.0003439756	0.9951120	114	2.9617701-05	0.9995803
7	0.04369698	0.3805088	43	0.003753257	0.9468200	79	0.000322337	0.9954362	115	2.7465181-05	0.9996080
8	0.04082823	0.4216171	44	0.003505428	0.9503250	80	0.0003009907	0.9957732	116	2.5841391-05	0.9996318
9	0.03814054	0.4599577	45	0.003274710	0.9533605	81	0.0002811466	0.9960166	117	2.4137831-05	0.9996556
10	0.03562742	0.4951851	46	0.003058429	0.9564594	82	0.0002626139	0.9962790	118	2.2546561-05	0.9996805
11	0.03327913	0.5286642	47	0.002857179	0.9595165	83	0.0002453013	0.9965243	119	2.1060221-05	0.9997016
12	0.03108538	0.5595496	48	0.002666123	0.9621853	84	0.0002291302	0.9967536	120	1.9671651-05	0.9997212
13	0.02903615	0.5885957	49	0.002492886	0.9648774	85	0.0002140251	0.9969674	121	1.8374991-05	0.9997459
14	0.02712199	0.6150777	50	0.002328563	0.9676066	86	0.0001999157	0.9971673	122	1.7163651-05	0.9997688
15	0.02553401	0.6440158	51	0.002170587	0.9698181	87	0.0001867365	0.9973561	123	1.6032151-05	0.9997928
16	0.02366360	0.6687058	52	0.002010650	0.9712139	88	0.0001744261	0.9975285	124	1.4975251-05	0.9998178
17	0.02210388	0.6884095	53	0.001807716	0.9731112	89	0.0001629215	0.9976915	125	1.3988031-05	0.9998421
18	0.02064671	0.7074542	54	0.001727411	0.9748034	90	0.0001521865	0.9978636	126	1.3045681-05	0.9998649
19	0.01928540	0.7267619	55	0.001655754	0.9765394	91	0.0001421538	0.9980358	127	1.2204551-05	0.9998870
20	0.01801422	0.7467560	56	0.001584600	0.9783002	92	0.0001327824	0.9981186	128	1.1399691-05	0.9999085
21	0.01682665	0.7615827	57	0.001514463	0.9795308	93	0.0001240289	0.9982626	129	1.0644431-05	0.9999291
22	0.01571738	0.7773001	58	0.001444406	0.9808802	94	0.0001158525	0.9983334	130	9.9464501-06	0.9999496
23	0.01468123	0.7919813	59	0.001374448	0.9821467	95	0.0001082150	0.9984667	131	7.2907421-06	0.9999683
24	0.013731338	0.8056947	60	0.001304490	0.9833180	96	0.0001010811	0.9985967	132	6.6782001-06	0.9999870
25	0.01280954	0.8185040	61	0.001234448	0.9844177	97	9.4417411-05	0.9987622	133	8.0106151-06	0.9999981
26	0.01196600	0.8306490	62	0.001164490	0.9854195	98	8.3193091-05	0.9989104	134	7.5171671-06	0.9999927
27	0.01117613	0.8418451	63	0.001094490	0.9864499	99	8.2379081-05	0.9990328	135	7.0072701-06	0.9999977
28	0.01043936	0.8520865	64	0.001024490	0.9875008	100	7.6463331-05	0.9991000	136	6.6083561-06	0.9999996
29	0.009751156	0.8618356	65	0.000954490	0.9885388	101	7.1075591-05	0.9991815	137	6.1708361-06	0.9999912
30	0.009108324	0.8709439	66	0.000884490	0.9895909	102	6.6713721-05	0.9992600	138	5.7640331-06	0.9999913
31	0.008507866	0.8794518	67	0.000814490	0.9906404	103	6.2711331-05	0.9993114	139	5.3840661-06	0.9999937
32	0.007944994	0.8873988	68	0.000744490	0.9916927	104	5.8577141-05	0.9993700	140	5.0291091-06	0.9999967
33	0.007423099	0.8948219	69	0.000674490	0.9927447	105	5.4715591-05	0.9994247	141	4.6497571-06	0.9999993
34	0.006933761	0.9017556	70	0.000604490	0.9938153	106	5.1108481-05	0.9994758	142	4.3878891-06	0.9999998
35	0.006476661	0.9082323	71	0.000534490	0.9948213	107	4.7759221-05	0.9995235	143	4.0986221-06	0.9999999

STATE I	PIN(=)	PINC(=)	STATE I	PIN(=)	PINC(=)	STATE I	PIN(=)	PINC(=)	STATE I	PIN(=)	PINC(=)
0	0.009766534	0.009766534	42	0.008860390	0.6771799	84	0.002843731	0.9957272	126	0.0009185418	0.9963193
1	0.02046493	0.03023347	43	0.008570231	0.6857501	85	0.002772326	0.9964594	127	0.0008945063	0.9967214
2	0.02375607	0.03379554	44	0.008362709	0.6944920	86	0.002694765	0.9971902	128	0.0008701603	0.9970038
3	0.02444206	0.07863155	45	0.008121226	0.7022141	87	0.002623205	0.9976134	129	0.0008473105	0.9976931
4	0.02624006	0.1026716	46	0.007905251	0.7101177	88	0.002553564	0.9980369	130	0.0008248161	0.9979755
5	0.02376492	0.1264185	47	0.007695746	0.7181554	89	0.002485772	0.9984857	131	0.0008029168	0.9983589
6	0.02316679	0.1495854	48	0.007491440	0.7253049	90	0.002419779	0.9989127	132	0.0007816029	0.9987345
7	0.02256851	0.1721339	49	0.007292554	0.7325994	91	0.002355359	0.9993280	133	0.0007608528	0.9992103
8	0.02197492	0.1961288	50	0.007098954	0.7396984	92	0.002293004	0.9997910	134	0.0007403538	0.9997280
9	0.02139337	0.2152222	51	0.006910488	0.7466089	93	0.002232129	0.9993132	135	0.0007209908	0.9997563
10	0.02082603	0.2363482	52	0.006727029	0.7533539	94	0.002172871	0.9998240	136	0.0007018500	0.9997846
11	0.02027334	0.2566215	53	0.006536642	0.7598843	95	0.002115185	0.9992442	137	0.0006830000	0.9998131
12	0.01973519	0.2763567	54	0.006347594	0.7665769	96	0.002059031	0.9995002	138	0.0006645418	0.9998400
13	0.01921128	0.2955680	55	0.006153558	0.7734443	97	0.002006368	0.9997656	139	0.0006462420	0.9998679
14	0.01870127	0.3142692	56	0.005960418	0.7803691	98	0.001951156	0.9990353	140	0.0006280346	0.9998907
15	0.01820079	0.3324741	57	0.005768025	0.7873491	99	0.001896534	0.9993551	141	0.0006105034	0.9999133
16	0.01772149	0.3501955	58	0.005572177	0.7949099	100	0.001844933	0.9996204	142	0.0005932162	0.9999315
17	0.01725101	0.3674445	59	0.005375717	0.8034815	101	0.001794547	0.9998839	143	0.0005761361	0.9999489
18	0.01679303	0.3842396	60	0.005182453	0.8121526	102	0.001743065	0.9991465	144	0.0005595272	0.9999648
19	0.01636721	0.4005886	61	0.004990245	0.8210840	103	0.001691551	0.9994145	145	0.0005430029	0.9999797
20	0.01591323	0.4165000	62	0.004800605	0.8301521	104	0.001640272	0.9996816	146	0.0005267777	0.9999930
21	0.015469076	0.4319008	63	0.004610205	0.8392206	105	0.001618195	0.9999380	147	0.0005105065	0.9999988
22	0.01501791	0.4470703	64	0.004420772	0.8481404	106	0.001573288	0.9992133	148	0.0004930013	0.9991362
23	0.01467919	0.4617495	65	0.004247400	0.8572575	107	0.001531521	0.9994982	149	0.0004754901	0.9981609
24	0.01424948	0.4789491	66	0.004073580	0.8665204	108	0.001490862	0.9997653	150	0.0004581571	0.9982362
25	0.01391012	0.4989491	67	0.003904576	0.8759509	109	0.001451282	0.9997849	151	0.0004407726	0.9982912
26	0.01356490	0.5034900	68	0.003737500	0.8854263	110	0.001412756	0.9997152	152	0.0004233278	0.9983265
27	0.01318135	0.5166471	69	0.003574653	0.8948380	111	0.001373268	0.9995727	153	0.0004062132	0.9983711
28	0.01281342	0.5295027	70	0.003415420	0.9042026	112	0.001338730	0.9995016	154	0.0003891442	0.9984142
29	0.01247907	0.5419935	71	0.003259450	0.9135204	113	0.001303179	0.9992214	155	0.0003720940	0.9984563
30	0.01215916	0.5541527	72	0.003107340	0.9228987	114	0.001268600	0.9993435	156	0.0003550763	0.9984974
31	0.01183636	0.5698900	73	0.003023214	0.9328110	115	0.001234921	0.9995718	157	0.0003380686	0.9985373
32	0.01152213	0.5775111	74	0.003072176	0.9433536	116	0.001202136	0.9995920	158	0.0003210790	0.9985721
33	0.01121264	0.5867274	75	0.003062912	0.9546156	117	0.001170222	0.9997097	159	0.0003041768	0.9986060
34	0.01091847	0.5984599	76	0.003026730	0.9670583	118	0.001139155	0.9998229	160	0.0002873988	0.9986402
35	0.01062581	0.6102746	77	0.003033103	0.9741163	119	0.001109393	0.9999388	161	0.0002706737	0.9986749
36	0.01033620	0.6220620	78	0.003035196	0.9775483	120	0.001079777	0.9999773	162	0.0002540760	0.9987092
37	0.01003776	0.6306927	79	0.003033103	0.9807114	121	0.001050081	0.9999691	163	0.0002374913	0.9987434
38	0.009766534	0.6404970	80	0.003032338	0.9838692	122	0.001020298	0.9999497	164	0.0002209306	0.9987784
39	0.009504375	0.6500411	81	0.003030827	0.9869642	123	0.0009957617	0.9999348	165	0.0002043269	0.9988128
40	0.009240710	0.6593319	82	0.003030005	0.9899421	124	0.0009693261	0.9999154	166	0.0001877094	0.9988474
41	0.009004062	0.6683759	83	0.003029218	0.9928836	125	0.0009435923	0.9998960	167	0.0001710658	0.9988824





STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)
168	0.0002966945	0.9991209	214	8.605538E-05	0.9996845	260	2.496011E-05	0.9999848	306	7.239612E-06	0.9997345
169	0.0002888178	0.9994097	215	8.377074E-05	0.9996283	261	2.429748E-05	0.9991090	307	7.047416E-06	0.9997416
170	0.0002811502	0.9986908	216	8.156804E-05	0.9990089	262	2.365242E-05	0.9991327	308	6.860319E-06	0.9997486
171	0.0002736661	0.9979695	217	7.938193E-05	0.9978052	263	2.302449E-05	0.9991581	309	6.678192E-06	0.9997551
172	0.0002661666	0.9972310	218	7.727450E-05	0.9971645	264	2.241326E-05	0.9991781	310	6.500899E-06	0.9997616
173	0.0002586666	0.9964903	219	7.522301E-05	0.9972217	265	2.181821E-05	0.9991999	311	6.328313E-06	0.9997679
174	0.0002512622	0.9957428	220	7.322599E-05	0.9973149	266	2.123899E-05	0.9992212	312	6.160309E-06	0.9997741
175	0.0002437600	0.9950986	221	7.128191E-05	0.9973862	267	2.067513E-05	0.9992429	313	5.996765E-06	0.9997801
176	0.0002362323	0.9944277	222	6.938960E-05	0.9974556	268	2.012624E-05	0.9992620	314	5.837563E-06	0.9997859
177	0.0002286841	0.9937467	223	6.756745E-05	0.9975232	269	1.959149E-05	0.9992816	315	5.682581E-06	0.9997919
178	0.0002212617	0.9930676	224	6.575618E-05	0.9975889	270	1.907181E-05	0.9993007	316	5.531732E-06	0.9997971
179	0.0002138632	0.9923901	225	6.400555E-05	0.9976529	271	1.856549E-05	0.9993192	317	5.386869E-06	0.9998025
180	0.0002064825	0.9917129	226	6.230923E-05	0.9977152	272	1.807262E-05	0.9993373	318	5.246191E-06	0.9998078
181	0.0001991213	0.9910355	227	6.065506E-05	0.9977759	273	1.759281E-05	0.9993549	319	5.102749E-06	0.9998128
182	0.0001918632	0.9903582	228	5.904474E-05	0.9978349	274	1.712577E-05	0.9993720	320	4.967824E-06	0.9998178
183	0.0001846032	0.9896809	229	5.747726E-05	0.9978924	275	1.667111E-05	0.9993887	321	4.835410E-06	0.9998227
184	0.0001773432	0.9890036	230	5.595136E-05	0.9979463	276	1.622853E-05	0.9994049	322	4.707040E-06	0.9998274
185	0.0001700832	0.9883263	231	5.446596E-05	0.9980028	277	1.579749E-05	0.9994207	323	4.582077E-06	0.9998320
186	0.0001628232	0.9876490	232	5.301999E-05	0.9980559	278	1.537829E-05	0.9994361	324	4.460632E-06	0.9998364
187	0.0001555632	0.9869717	233	5.161241E-05	0.9981075	279	1.497003E-05	0.9994510	325	4.342016E-06	0.9998407
188	0.0001483032	0.9862944	234	5.024220E-05	0.9981577	280	1.457261E-05	0.9994656	326	4.228709E-06	0.9998449
189	0.0001410432	0.9856171	235	4.890838E-05	0.9982066	281	1.418573E-05	0.9994800	327	4.119532E-06	0.9998491
190	0.0001337832	0.9849400	236	4.760995E-05	0.9982542	282	1.380913E-05	0.9994943	328	4.015300E-06	0.9998531
191	0.0001265232	0.9842627	237	4.633600E-05	0.9983008	283	1.344275E-05	0.9995071	329	3.916967E-06	0.9998570
192	0.0001192632	0.9835854	238	4.511561E-05	0.9983455	284	1.308545E-05	0.9995201	330	3.824557E-06	0.9998608
193	0.0001120032	0.9829081	239	4.391788E-05	0.9983893	285	1.273825E-05	0.9995329	331	3.738466E-06	0.9998643
194	0.0001047432	0.9822308	240	4.275194E-05	0.9984323	286	1.240000E-05	0.9995457	332	3.658069E-06	0.9998681
195	0.0000974832	0.9815535	241	4.161696E-05	0.9984740	287	1.207080E-05	0.9995574	333	3.581123E-06	0.9998716
196	0.0000902232	0.9808762	242	4.051212E-05	0.9985145	288	1.175042E-05	0.9995691	334	3.508178E-06	0.9998750
197	0.0000829632	0.9801989	243	3.943661E-05	0.9985539	289	1.143867E-05	0.9995806	335	3.437698E-06	0.9998783
198	0.0000757032	0.9795216	244	3.838966E-05	0.9985923	290	1.113480E-05	0.9995919	336	3.369419E-06	0.9998816
199	0.0000684432	0.9788443	245	3.737074E-05	0.9986297	291	1.083892E-05	0.9996023	337	3.303249E-06	0.9998847
200	0.0000611832	0.9781670	246	3.637836E-05	0.9986662	292	1.055144E-05	0.9996130	338	3.239179E-06	0.9998878
201	0.0000539232	0.9774897	247	3.541260E-05	0.9987015	293	1.027132E-05	0.9996234	339	3.177167E-06	0.9998907
202	0.0000466632	0.9768124	248	3.448284E-05	0.9987365	294	9.998595E-06	0.9996334	340	3.117207E-06	0.9998936
203	0.0000394032	0.9761351	249	3.359328E-05	0.9987745	295	9.733195E-06	0.9996431	341	3.059295E-06	0.9998965
204	0.0000321432	0.9754578	250	3.274660E-05	0.9988122	296	9.474797E-06	0.9996526	342	3.003417E-06	0.9998992
205	0.0000248832	0.9747805	251	3.194917E-05	0.9988500	297	9.223260E-06	0.9996618	343	2.949580E-06	0.9999019
206	0.0000176232	0.9741032	252	3.119917E-05	0.9988879	298	8.978402E-06	0.9996707	344	2.897698E-06	0.9999045
207	0.0000103632	0.9734259	253	3.049547E-05	0.9989259	299	8.740042E-06	0.9996793	345	2.847723E-06	0.9999070
208	0.0000031032	0.9727486	254	2.983332E-05	0.9989624	300	8.508012E-06	0.9996876	346	2.799698E-06	0.9999095
209	0.0000000000	0.9720713	255	2.921545E-05	0.9989990	301	8.282141E-06	0.9996958	347	2.753573E-06	0.9999119
210	0.0000000000	0.9713940	256	2.864045E-05	0.9990355	302	8.062267E-06	0.9997040	348	2.709300E-06	0.9999142
211	0.0000000000	0.9707167	257	2.810945E-05	0.9990710	303	7.847797E-06	0.9997122	349	2.666825E-06	0.9999165
212	0.0000000000	0.9700394	258	2.761845E-05	0.9991065	304	7.639975E-06	0.9997204	350	2.625924E-06	0.9999187
213	0.0000000000	0.9693621	259	2.716745E-05	0.9991420	305	7.437051E-06	0.9997272	351	2.586524E-06	0.9999208

STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)
0	0.004855298	0.994855298	60	0.006035011	0.993964989	120	0.002702019	0.9979989	180	0.001209759	0.99102756
1	0.01028960	0.98971039	61	0.005955724	0.99388552	121	0.002666072	0.9979260	181	0.001193665	0.99114493
2	0.01208771	0.98456461	62	0.005876437	0.9938060	122	0.002630478	0.9978531	182	0.001177784	0.99126671
3	0.01259509	0.97941912	63	0.005797138	0.9937265	123	0.002595067	0.9977792	183	0.001162115	0.99138092
4	0.01265751	0.97427363	64	0.005717840	0.9936470	124	0.002560178	0.9977053	184	0.001146446	0.99149859
5	0.01266622	0.96912815	65	0.005638543	0.9935675	125	0.002525706	0.9976314	185	0.001131066	0.99161683
6	0.01242513	0.97747698	66	0.005559492	0.9934880	126	0.002493864	0.9975575	186	0.001116386	0.99172016
7	0.01224657	0.98097458	67	0.005494934	0.99342563	127	0.002460215	0.9974836	187	0.001101347	0.99183051
8	0.01210828	0.91018538	68	0.005421432	0.99336781	128	0.002427483	0.9974097	188	0.001086663	0.99193791
9	0.01196417	0.91138020	69	0.005349703	0.99331229	129	0.002395190	0.9973358	189	0.001072366	0.99204643
10	0.01178954	0.91259916	70	0.005278531	0.99326050	130	0.002363325	0.9972619	190	0.001058117	0.99215224
11	0.01163280	0.91372464	71	0.005208306	0.99321146	131	0.002331686	0.9971880	191	0.001044060	0.99225656
12	0.01147808	0.91480724	72	0.005139016	0.99316857	132	0.002300862	0.9971141	192	0.001030351	0.99235666
13	0.01132339	0.91600278	73	0.005070669	0.99312703	133	0.002270252	0.9970402	193	0.001016666	0.99246131
14	0.01117472	0.9172025	74	0.005003192	0.99308723	134	0.002240049	0.9969663	194	0.001002964	0.99256106
15	0.01102606	0.91822886	75	0.004936362	0.99304862	135	0.002210248	0.9968924	195	0.0009893519	0.99266056
16	0.01087741	0.91913086	76	0.004870953	0.99301137	136	0.002180466	0.9968185	196	0.0009761458	0.99275820
17	0.01072876	0.92008623	77	0.004806153	0.99297634	137	0.002151830	0.9967446	197	0.000963005	0.99285595
18	0.01058011	0.92104364	78	0.004742213	0.99294385	138	0.002123203	0.9966707	198	0.0009500608	0.99295406
19	0.01043146	0.92246833	79	0.004679123	0.99291626	139	0.002094957	0.99664620	199	0.0009374622	0.99305430
20	0.01031168	0.92331972	80	0.004616875	0.99289379	140	0.002067086	0.99662067	200	0.0009254493	0.99315395
21	0.01017470	0.92439171	81	0.004554563	0.99287634	141	0.002039566	0.99659679	201	0.0009131716	0.99325772
22	0.01003933	0.92556113	82	0.004494050	0.99286348	142	0.002012492	0.99657229	202	0.0009009122	0.99335737
23	0.009903774	0.92633171	83	0.004433061	0.99285469	143	0.001985979	0.99654778	203	0.00088869361	0.99346277
24	0.009773988	0.92750911	84	0.004374066	0.99284949	144	0.001959326	0.99652481	204	0.00087677083	0.99356399
25	0.009643661	0.92847530	85	0.004317831	0.99284793	145	0.001933197	0.99650203	205	0.0008653368	0.99366034
26	0.009515658	0.92942507	86	0.004262387	0.99284911	146	0.001907478	0.99648278	206	0.0008540235	0.99376495
27	0.009389063	0.93036737	87	0.004208578	0.99285228	147	0.001882182	0.99646409	207	0.000842848	0.99387502
28	0.009266156	0.93129939	88	0.004147787	0.99285706	148	0.001857063	0.99644620	208	0.0008314515	0.99398336
29	0.009146909	0.93220648	89	0.004089632	0.99286326	149	0.001832257	0.99642895	209	0.0008203399	0.99409313
30	0.009029630	0.93310646	90	0.004034133	0.99287100	150	0.001807960	0.99641210	210	0.0008094973	0.99420472
31	0.008919312	0.93399634	91	0.003984426	0.99288038	151	0.001784327	0.99639612	211	0.0007987068	0.99431762
32	0.008780919	0.93487443	92	0.0039391426	0.99289172	152	0.001761964	0.99638154	212	0.0007880160	0.99443203
33	0.008666098	0.93574085	93	0.003897829	0.99290466	153	0.001740136	0.99636777	213	0.0007775396	0.99454779
34	0.008546833	0.93659373	94	0.0038587519	0.99291913	154	0.001718372	0.99635497	214	0.0007672517	0.99466405
35	0.008435104	0.93743924	95	0.003822635	0.99293515	155	0.001696876	0.99634321	215	0.0007570666	0.99478121
36	0.008322887	0.93827153	96	0.003787656	0.99295269	156	0.0016756379	0.99633251	216	0.0007469731	0.99489961
37	0.008212150	0.93909274	97	0.003754782	0.99297136	157	0.0016546183	0.99632283	217	0.0007370354	0.99501932
38	0.008102909	0.93990303	98	0.003723667	0.99299113	158	0.0016338283	0.99631361	218	0.0007272302	0.99514014
39	0.007995110	0.94070233	99	0.0036937963	0.99301111	159	0.0016132674	0.99630497	219	0.0007175394	0.99526509
40	0.007888764	0.94149162	100	0.0036651981	0.99303611	160	0.001592831	0.99629687	220	0.0007080093	0.99539480
41	0.007782797	0.94226980	101	0.003636893	0.99306150	161	0.001572509	0.99628922	221	0.0006986502	0.99552873
42	0.0076760261	0.94303783	102	0.003608869	0.99308726	162	0.001552331	0.99628216	222	0.0006894654	0.99566793
43	0.007573967	0.94379363	103	0.003581392	0.99311344	163	0.001532297	0.99627563	223	0.0006804420	0.99581269
44	0.007477250	0.94453336	104	0.0035547765	0.99314006	164	0.001512408	0.99626963	224	0.0006716780	0.99596240
45	0.007377777	0.94528114	105	0.0035293208	0.993167105	165	0.001492673	0.99626415	225	0.0006631301	0.99610802
46	0.007279623	0.94600910	106	0.0035042526	0.99319457	166	0.00147319250	0.99625917	226	0.0006548342	0.99625915
47	0.007182777	0.94672380	107	0.0034795903	0.99322247	167	0.0014539637	0.99625461	227	0.0006466691	0.99641618
48	0.0070878220	0.94743610	108	0.0034553119	0.99325088	168	0.001434983	0.99625051	228	0.0006386371	0.99657824
49	0.006992936	0.94813339	109	0.0034313095	0.99327979	169	0.0014162181	0.99624683	229	0.00063072618	0.99674619
50	0.006899904	0.94882538	110	0.0034076252	0.99330917	170	0.00139763132	0.99624361	230	0.0006229103	0.99691911
51	0.006808110	0.94950619	111	0.0033843854	0.99333792	171	0.0013792671	0.99624087	231	0.0006152228	0.99709662
52	0.0067167537	0.95017799	112	0.0033616192	0.99336737	172	0.00136106976	0.99623863	232	0.0006076900	0.99728690
53	0.006626167	0.95084077	113	0.00333938023	0.993398023	173	0.0013430481	0.99623689	233	0.0006003061	0.99748959
54	0.006536989	0.95149477	114	0.0033176110	0.99342893	174	0.00132510969	0.99623566	234	0.0005930619	0.99770469
55	0.006449281	0.95214066	115	0.0032962810	0.99346016	175	0.0013073564	0.99623495	235	0.0005859593	0.99793066
56	0.0063631306	0.95277678	116	0.0032754019	0.99349177	176	0.0012897339	0.99623479	236	0.0005789464	0.99816813
57	0.006282426	0.95340502	117	0.0032549279	0.99352381	177	0.0012722601	0.99623519	237	0.0005720633	0.99839757
58	0.0062019890	0.95402490	118	0.003234861	0.99355635	178	0.0012549461	0.99623613	238	0.0005653043	0.99863757
59	0.006116379	0.95463634	119	0.0032151961	0.99358940	179	0.0012377706	0.99623761	239	0.0005586849	0.99889266





STATE	PIN(=1)	PIN(=1)	STATE	PIN(=1)	PIN(=1)	STATE	PIN(=1)	STATE	PIN(=1)	STATE	PIN(=1)	PIN(=1)
240	0.0005616379	0.9598283	354	0.0001174999	0.9912735	468	2.559261-05	3.9981043	382	2.532236-36	0.9995882	
241	0.0005616320	0.9603627	355	0.0001140946	0.9913896	469	2.521923-05	0.9981295	383	2.478370-06	0.9995937	
242	0.0005273221	0.9608900	356	0.000115531	0.9915041	470	2.468372-05	0.9981544	384	2.405480-06	0.9995980	
243	0.0005203049	0.9614103	357	0.000110262	0.9916171	471	2.435268-05	0.9981790	385	2.335757-06	0.9996034	
244	0.0005133848	0.9619237	358	0.0001115225	0.9917287	472	2.422603-05	0.9982032	386	2.262616-06	0.9996096	
245	0.0005065590	0.9624302	359	0.0001100380	0.9918387	473	2.390373-05	0.9982271	387	2.172606-06	0.9996148	
246	0.0004998159	0.9629300	360	0.0001085749	0.9919473	474	2.358573-05	0.9982507	388	2.123526-06	0.9996200	
247	0.0004931665	0.9634232	361	0.0001071305	0.9920546	475	2.327195-05	0.9982740	389	2.055366-06	0.9996250	
248	0.0004864054	0.9639086	362	0.0001057052	0.9921601	476	2.296236-05	0.9982969	390	2.008107-06	0.9996300	
249	0.0004801319	0.9643900	363	0.0001042990	0.9922644	477	2.265687-05	0.9983196	391	2.021749-06	0.9996369	
250	0.0004737445	0.9648637	364	0.0001029114	0.9923673	478	2.235219-05	0.9983431	392	2.055672-06	0.9996438	
251	0.0004674617	0.9653311	365	0.0001015463	0.9924698	479	2.205080-05	0.9983660	393	2.091661-06	0.9996494	
252	0.0004612231	0.9657974	366	0.0001001914	0.9925690	480	2.176457-05	0.9983857	394	2.072791-06	0.9996543	
253	0.0004550871	0.9662674	367	0.0000988551	0.9926679	481	2.147503-05	0.9984052	395	2.065019-06	0.9996594	
254	0.0004490328	0.9667495	368	0.0000975336	0.9927655	482	2.118933-05	0.9984284	396	2.029577-06	0.9996648	
255	0.0004430590	0.9671395	369	0.0000962159	0.9928637	483	2.090744-05	0.9984513	397	2.043471-06	0.9996693	
256	0.0004371647	0.9675767	370	0.0000949045	0.9929597	484	2.062929-05	0.9984799	398	2.081300-06	0.9996746	
257	0.0004313448	0.9680080	371	0.0000935918	0.9930504	485	2.035486-05	0.9985033	399	2.021681-06	0.9996797	
258	0.0004256102	0.9684337	372	0.0000922819	0.9931428	486	2.008064-05	0.9985301	400	2.062957-06	0.9996846	
259	0.0004199480	0.9688534	373	0.0000909745	0.9932360	487	1.981664-05	0.9985532	401	2.030851-06	0.9996897	
260	0.0004143612	0.9692680	374	0.0000896693	0.9933240	488	1.955322-05	0.9985798	402	2.047543-06	0.9996949	
261	0.0004088487	0.9696769	375	0.0000883661	0.9934124	489	1.929000-05	0.9986061	403	2.091037-06	0.9996992	
262	0.0004034094	0.9700865	376	0.0000870649	0.9935005	490	1.902678-05	0.9986324	404	2.035281-06	0.9997033	
263	0.0003980424	0.9704783	377	0.0000857658	0.9935870	491	1.876316-05	0.9986590	405	2.080266-06	0.9997073	
264	0.0003927471	0.9708710	378	0.0000844685	0.9936723	492	1.850328-05	0.9986854	406	2.025996-06	0.9997114	
265	0.0003875222	0.9712589	379	0.0000831731	0.9937565	493	1.824867-05	0.9987118	407	2.072423-06	0.9997154	
266	0.0003823468	0.9716490	380	0.0000818795	0.9938396	494	1.800364-05	0.9987381	408	2.019576-06	0.9997192	
267	0.0003772799	0.9720382	381	0.0000805876	0.9939215	495	1.776804-05	0.9987645	409	2.067431-06	0.9997231	
268	0.0003722266	0.9724295	382	0.0000792973	0.9940023	496	1.753663-05	0.9987909	410	2.015980-06	0.9997271	
269	0.0003673083	0.9728250	383	0.0000780085	0.9940822	497	1.730828-05	0.9988174	411	2.064213-06	0.9997310	
270	0.0003624216	0.9732120	384	0.0000767213	0.9941619	498	1.708225-05	0.9988438	412	2.012521-06	0.9997354	
271	0.0003576002	0.9736078	385	0.0000754358	0.9942414	499	1.686744-05	0.9988701	413	2.060697-06	0.9997391	
272	0.0003528627	0.9739966	386	0.0000741519	0.9943215	500	1.665302-05	0.9988963	414	2.008926-06	0.9997431	
273	0.0003481486	0.9743788	387	0.0000728696	0.9944016	501	1.644027-05	0.9989225	415	2.057181-06	0.9997473	
274	0.0003435149	0.9747523	388	0.0000715888	0.9944815	502	1.622810-05	0.9989487	416	2.005332-06	0.9997510	
275	0.0003389449	0.9751281	389	0.0000703094	0.9945611	503	1.599450-05	0.9989749	417	2.053486-06	0.9997549	
276	0.0003344377	0.9755057	390	0.0000690315	0.9946411	504	1.578171-05	0.9990011	418	2.001642-06	0.9997587	
277	0.0003299863	0.9758857	391	0.0000677549	0.9947213	505	1.557176-05	0.9990272	419	2.049795-06	0.9997627	
278	0.0003255983	0.9762673	392	0.0000664795	0.9948016	506	1.536400-05	0.9990533	420	2.000000-06	0.9997663	
279	0.0003212667	0.9766495	393	0.0000652052	0.9948821	507	1.515624-05	0.9990794	421	2.048251-06	0.9997701	
280	0.0003169926	0.9770323	394	0.0000639319	0.9949628	508	1.495051-05	0.9991055	422	2.000000-06	0.9997739	
281	0.0003127754	0.9774168	395	0.0000626596	0.9950436	509	1.475991-05	0.9991316	423	2.048251-06	0.9997776	
282	0.0003086145	0.9777999	396	0.0000613882	0.9951246	510	1.456315-05	0.9991577	424	2.000000-06	0.9997814	
283	0.0003045087	0.9781836	397	0.0000601177	0.9952058	511	1.436846-05	0.9991838	425	2.048251-06	0.9997851	
284	0.0003004577	0.9785673	398	0.0000588481	0.9952871	512	1.417582-05	0.9992099	426	2.000000-06	0.9997889	
285	0.0002964605	0.9789519	399	0.0000575794	0.9953686	513	1.398496-05	0.9992360	427	2.048251-06	0.9997926	
286	0.0002925163	0.9793364	400	0.0000563115	0.9954501	514	1.380351-05	0.9992621	428	2.000000-06	0.9997963	
287	0.0002886248	0.9797219	401	0.0000550445	0.9955317	515	1.362357-05	0.9992882	429	2.048251-06	0.9998001	
288	0.0002847849	0.9801074	402	0.0000537783	0.9956132	516	1.344403-05	0.9993143	430	2.000000-06	0.9998038	
289	0.0002809943	0.9804929	403	0.0000525129	0.9956947	517	1.326498-05	0.9993404	431	2.048251-06	0.9998076	
290	0.0002772580	0.9808784	404	0.0000512483	0.9957762	518	1.308643-05	0.9993665	432	2.000000-06	0.9998114	
291	0.0002735645	0.9812639	405	0.0000500837	0.9958577	519	1.290838-05	0.9993926	433	2.048251-06	0.9998151	
292	0.0002699301	0.9816494	406	0.0000489191	0.9959392	520	1.273083-05	0.9994187	434	2.000000-06	0.9998189	
293	0.0002663389	0.9820349	407	0.0000477545	0.9960207	521	1.255378-05	0.9994448	435	2.048251-06	0.9998226	
294	0.0002627957	0.9824204	408	0.0000465899	0.9961022	522	1.237723-05	0.9994709	436	2.000000-06	0.9998264	
295	0.0002592995	0.9828059	409	0.0000454253	0.9961797	523	1.220118-05	0.9994970	437	2.048251-06	0.9998301	
296	0.0002558487	0.9831914	410	0.0000442607	0.9962572	524	1.202513-05	0.9995231	438	2.000000-06	0.9998339	
297	0.0002524462	0.9835769	411	0.0000430961	0.9963347	525	1.184908-05	0.9995492	439	2.048251-06	0.9998376	
298	0.0002490876	0.9839624	412	0.0000419315	0.9964122	526	1.167303-05	0.9995753	440	2.000000-06	0.9998414	
299	0.0002457739	0.9843479	413	0.0000407669	0.9964897	527	1.149698-05	0.9996014	441	2.048251-06	0.9998451	
300	0.0002425042	0.9847334	414	0.0000396023	0.9965672	528	1.132093-05	0.9996275	442	2.000000-06	0.9998489	
301	0.0002392760	0.9851189	415	0.0000384377	0.9966447	529	1.114488-05	0.9996536	443	2.048251-06	0.9998526	
302	0.0002360946	0.9855044	416	0.0000372731	0.9967222	530	1.096883-05	0.9996797	444	2.000000-06	0.9998564	
303	0.0002329538	0.9858899	417	0.0000361085	0.9967997	531	1.079278-05	0.9997058	445	2.048251-06	0.9998601	
304	0.0002298536	0.9862754	418	0.0000349439	0.9968772	532	1.061673-05	0.9997319	446	2.000000-06	0.9998639	
305	0.0002267968	0.9866609	419	0.0000337793	0.9969547	533	1.044068-05	0.9997580	447	2.048251-06	0.9998676	
306	0.0002237769	0.9870464	420	0.0000326147	0.9970322	534	1.026463-05	0.9997841	448	2.000000-06	0.9998714	
307	0.0002208026	0.9874319	421	0.0000314501	0.9971097	535	1.008858-05	0.9998102	449	2.048251-06	0.9998751	
308	0.0002178649	0.9878174	422	0.0000302855	0.9971872	536	0.991253-05	0.9998363	450	2.000000-06	0.9998789	
309	0.0002149665	0.9882029	423	0.0000291209	0.9972647	537	0.973648-05	0.9998624	451	2.048251-06	0.9998826	
310	0.0002121067	0.9885884	424	0.0000279563	0.9973422	538	0.956043-05	0.9998885	452	2.000000-06	0.9998864	
311	0.0002092849	0.9889739	425	0.0000267917	0.9974197	539	0.938438-05	0.9999146	453	2.048251-06	0.9998901	
312	0.0002065006	0.9893594	426	0.0000256271	0.9974972	540	0.920833-05	0.9999407	454	2.000000-06	0.9998939	
313	0.0002037534	0.9897449	427	0.0000244625	0.9975747	541	0.903228-05	0.9999668	455	2.048251-06	0.9998976	
314	0.0002010427	0.9901304	428	0.0000232979	0.9976522	542	0.885623-05	0.9999929	456	2.000		



M = 1 , K = 2 , C = 2

RHO	P(DELAY)	L(GIVEN K)	LQ(GIVEN K)	LQ FOR K=1	RATIO
0.10	0.01809534	0.2016136	0.001613642	0.002020202	0.7987527
0.20	0.06618392	0.4131336	0.01313360	0.01666667	0.7880159
0.30	0.1373228	0.6462542	0.04625429	0.05934066	0.7794735
0.40	0.2266958	0.9177243	0.1177242	0.1523809	0.7725656
0.50	0.3308271	1.255639	0.2556391	0.3333333	0.7669173
0.55	0.3875907	1.464701	0.3647011	0.4770609	0.7644749
0.60	0.4471239	1.714518	0.5145185	0.6750000	0.7622496
0.65	0.5091953	2.023029	0.7230299	0.9510822	0.7602180
0.70	0.5735996	2.420068	1.020068	1.345098	0.7583598
0.75	0.6401541	2.959268	1.459268	1.928571	0.7565573
0.80	0.7086957	3.747826	2.147825	2.844444	0.7550951
0.85	0.7793772	5.035792	3.335792	4.426126	0.7536595
0.90	0.8511665	7.573210	5.773210	7.673684	0.7523388
0.95	0.9248437	15.11011	13.21011	17.58717	0.7511220
0.98	0.9697665	37.63202	35.67203	47.53494	0.7504380
0.99	0.9848553	75.13930	73.15929	97.51749	0.7502172





4 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 10

$\mu = 1$ ,  $\sigma = 2$ ,  $C = 1$ ,  $\text{RMSE} = 0.09$

STATE I	P(N=1)	P(N=1)	STATE I	P(N=1)	P(N=1)
0	0.7407212	0.7407212	7	1.218328e-07	0.000000e+00
1	0.2222378	0.0629591	8	6.477823e-09	0.000000e+00
2	0.0533604	0.0033197	9	5.775009e-10	0.000000e+00
3	0.00336584	0.0006753	10	3.666069e-11	0.000000e+00
4	0.000289773	0.0000975	11	2.595210e-12	0.000000e+00
5	2.284083e-05	0.0000082	12	1.713507e-13	0.000000e+00
6	1.701290e-06	0.0000008	13	1.0081122e-14	0.000000e+00

9 - 1 , 4 - 2 , C - 3 , AND - 0.20

STATE	P(N=1)	P(N=2)	STATE	P(N=1)	P(N=2)
0	0.5677596	0.5677596	9	2.727223	-0.37
1	0.3266778	0.6766375	10	3.658606	-0.0
2	0.0969635	0.9756028	11	5.13572	-0.0
3	0.02016273	0.9957855	12	7.560006	-0.0
4	0.003538912	0.9993264	13	1.067622	-0.0
5	0.0005721827	0.999896	14	1.664161	-0.0
6	8.800898E-05	0.9999666	15	1.999506	-0.2
7	1.109763E-05	0.9999977	16	2.793599	-0.4
8	1.095268E-06	0.9999999	17	3.787682	-0.4

016 • 3.10 • C • 2 • K • 1

STATE	PINC(1)	PINC(4)	STATE	PINC(1)	PINC(4)
0	0.04026984	0.04026984	9	0.73869900	-0.04026984
1	0.36333349	0.7462233	10	2.18073200	-0.04026984
2	0.1644348	0.9308462	11	0.85903400	-0.04026984
3	0.03908252	0.9119087	12	1.07843500	-0.04026984
4	0.01386990	0.9955316	13	2.31880800	-0.04026984
5	0.00349748	0.9989614	14	5.26119700	-0.04026984
6	0.0008138295	0.9997592	15	1.16678000	-0.04026984
7	0.0001890578	0.9999443	16	2.57555600	-0.04026984
8	0.3197390005	0.9999874	17	3.66026300	-0.04026984

9 . 1 , 4 . 2 , 6 . 3 , 8 . 4

Strale	P(N=1)	P(N=2)	P(N=3)	P(N=4)
0	0.2930454	0.2930454	0.11	1.179164e-05
1	0.2531530	0.2531530	12	3.665959e-06
2	0.2144976	0.2144976	13	1.150833e-06
3	0.08978654	0.08978654	14	3.990713e-07
4	0.03282590	0.03282590	15	1.119026e-07
5	0.01122601	0.01122601	16	3.691031e-08
6	0.003696464	0.003696464	17	1.068391e-08
7	0.001192982	0.001192982	18	3.392522e-09
8	0.0003796606	0.0003796606	19	1.037386e-09
9	0.0001198573	0.0001198573	20	3.295533e-10

1	3.769140 <sup>-03</sup>	0.9999826	21	1.027101 <sup>-10</sup>	0
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STATE	P(N=1)	P(N=2)	STATE	P(N=1)
1			1	
0	0.2090139	0.2090139	12	5.632188E-05
1	0.3198004	0.3248166	13	2.311409E-05
2	0.2613571	0.7601716	14	9.403105E-06
3	0.1261831	3.499356E-7	15	3.488990E-06
4	0.0597519	0.5248263	16	1.595468E-06
5	0.02639089	0.9806769	17	6.563371E-07
6	0.01126185	7.519386E-8	18	2.483520E-07
7	0.006723317	7.996461E-9	19	1.005219E-07
8	0.004072311	0.9886215	20	1.137264E-08

0.001481749	0.1488233	20	4.913248	-0.0
0.0004103384	0.9994336	21	1.850903	-0.0

STATE	P(N=1)	P(N=2)	STATE	P(N=1)
0	0.1745250	0.1745250	12	0.0001702463
1	0.2905986	0.4651242	13	6.234635E-05
2	0.2652257	0.7103499	14	3.605959E-05
3	0.1663923	0.8597423	15	1.750020E-05
4	0.0751809	0.9259806	16	8.120073E-06
5	0.03696523	0.9668257	17	3.571164E-06

0.01764907	0.9844767	10	1.7326974-06	0
0.00000000	0.00000000	10	0.00000000-00	0

8	0.003673445	0.9966508	20	3.646779E-07	0
9	0.001798899	0.9982007	21	1.707593E-07	0
10	0.000833372	0.9992631	22	7.887127E-08	0
11	0.000395529	0.9996687	23	3.663058E-08	0
M = 1, K = 2, C = 3, RHO = 3.e-08					
STATE					
I	P(N=)	P(NC=)	I	P(N=)	
0	0.1441830	0.1441830	13	0.00022595834	0
1	0.2626193	0.2606224	14	0.0001338068	0
2	0.2257271	0.2249195	15	6.866279E-05	0

STATE	
NAME	DATE
...	...

0	1	0.1174492	0.1174492	13	0.000733626	0.91
		0.2321137	0.3496830	14	0.000414967	0.92
		0.2314207	0.5828857	15	0.002381931	0.93
		0.1831141	0.810204	16	0.001362278	0.94
		0.1040806	0.9521110	17	7.771496e-05	0.95
		0.0622622	0.3163972	18	4.633442e-05	0.96
		0.03040750	0.2508067	19	2.529154e-05	0.97
7	1	0.02102595	0.718307	20	1.442813e-05	0.98
		0.01204929	0.3839000	21	6.230835e-06	0.99
8	1	0.004606737	0.3908067	22	6.95456e-06	0.93
9	1	0.003944293	0.9947530	23	2.678620e-06	0.94
10	1	0.002253025	0.9970860	24	1.528075e-06	0.95

0.001205793      0.9902910      25    |    0.717220'-37      0.

STATE (	P(N=0)	P(N=1)	STATE (	P(N=1)	P(N=2)
0	0.09386647	0.09386647	14	0.001176390	0.99882361
1	0.2002669	0.29611336	15	0.00037378126	0.99962621874
2	0.2178667	0.5120001	16	0.0004627616	0.9995372384
3	0.1673662	0.6793663	17	0.00029037376	0.99970962624
4	0.1149373	0.7963216	18	0.00016262124	0.99983737876
5	0.0752662	0.8695700	19	0.0001141676	0.9998858324
6	0.04816631	0.9177566	20	7.160391E-55	0.9999999999999999
7	0.0052790	0.9682813	21	4.906681E-55	0.9999999999999999

0.01924026	0.9675216	22		2.816342'-03	0.
0.01208999	0.9790175	23		1.704313'-03	0.

10		0.007555126	0.0072127	28		1.6124714-06	0.3
11		0.004766185	0.0049778	29		0.7467174-06	0.3
12		0.002990649	0.0039696	26		0.3581077-06	0.3
13		0.001675559	0.0008645	27		2.7333254-06	0.3
M = 1 , K = 2 , C = 3 , NMC = 3.75							
STATE							
(	P(N=)		STATE		P(N=)		
0		0.07304281	0.07304281	16		0.001401424	0.3
1		0.1674082	0.2460910	17		0.000940655	0.3
2		0.1960550	0.4350601	18		0.0006589000	0.3
3		0.1827993	0.2929064	19		0.0004513060	0.3

0.1627883	0.3992946	19	0.000000000000000000
0.1212415	0.7209359	20	0.00030994140

5	1	0.060213005	3.8671007	22	1	0.000149386	0.0
6	1	0.060163564	0.9087363	23	1	0.965895-05	0.0
7	1	0.061635564	0.9377882	24	1	0.831369-05	0.0
8	1	0.028651186	0.9570642	25	1	0.682735-05	0.0
9	1	0.019676407	0.9705923	26	1	0.209896-05	0.0
10	1	0.01340896	0.9798201	27	1	2.200308-05	0.0
11	1	0.009256873	0.9846666	28	1	1.508256-05	0.0
12	1	0.006346527	0.9905174	29	1	1.035873-05	0.0
13	1	0.0039350759	0.9933498	30	1	7.086945-06	0.0
14	1	0.002982438	0.9955443	31	1	4.857927-06	0.0
15	1	0.002044439					

$\mu = 1$ ,  $\kappa = 2$ ,  $C = 3$ ,  $AMQ = 0.00$

57A7E

0	0.05466167	0.05466167	19	0.001563750
1	0.1339555	0.1885970	20	0.001165350
2	0.1681644	0.3567615	21	0.000866895
3	0.1502548	0.5070163	22	0.000647603
4	0.1208445	0.6271968	23	0.000465751
5	0.0931950	0.7210203	24	0.000315791
6	0.0709912	0.7835195	25	0.000204065
7	0.0529035	0.8266278	26	0.000139805
8	0.03955721	0.8639850	27	0.000094211
9	0.02952463	0.9135097	28	0.0000610995
10	0.02201950	0.9552292	29	0.0000417035
11	0.01661645	0.9919456	30	0.0000259705

0.01223722	0.9641629	31	4.395688'-09
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14	0.006798539	0.9801027	33	2.5529827	-35	0.
15	0.005067211	0.9851699	34	1.9028137	-05	0.
16	0.003776765	0.9889467	35	1.4182245	-05	0.
17	0.002814943	0.9917616	36	1.0570045	-05	0.
18	0.002098063	0.9938596	37	7.6784757	-06	0.
$\eta = 1, \quad \kappa = 2, \quad C = 3, \quad \text{AMD} = 8.85$						
STATE <span style="margin-left: 100px;">STATE</span>						
1	P(N=3)	P(N=4)	1	P(N=5)	P	
0	0.03637182	0.33837162	25	0.00129152		
1	0.1002443	0.1386412	26	0.00104349		0.

0.1343497	3.2730119	27	1	0.000000000000
0.1307310	0.0017029	28	1	0.000000000000

4	0.01113841	0.51311721	29	0.0006470368	0.
5	0.00923607	0.60584918	30	0.0001130088	0.
6	0.00756691	0.71311469	31	0.0000781573	0.
7	0.00619046	0.74275549	32	0.0000287258	0.
8	0.00505183	0.74264677	33	0.00001341974	0.
9	0.00400992	0.83250557	34	0.0000186194	0.
10	0.00323649	0.8646698	35	0.0000153703	0.
11	0.002611428	0.89799841	36	0.0000121465	0.
12	0.002106693	0.9120559	37	0.813547e-05	0.
13	0.001699750	0.9240505	38	7.914884e-05	0.
14	0.001371255	0.9427630	39	6.306728e-05	0.
15	0.001106235	0.9538254	40	5.132340e-05	0.
16	0.000892617	0.9627497	41	4.196529e-05	0.

0.007194489	0.9699492	42	1	3.193100	-03	0
0.009808022	0.9797972	43	1	2.703081	-03	0

19	3.003435586	0.98044627	+4	2.1922767-05	3.
20	3.303777900	3.9842226	+5	1.7404987-05	3.
21	0.003049316	0.9872720	+6	1.4402138-05	3.
22	0.002459958	0.9897920	+7	1.1453764-05	0.
23	0.001904539	3.9917165	+8	9.240257-06	3.
24	0.001400979	0.9933175	+9	7.4365917-06	3.





STATE	PIN(1)	PIN(2)	STATE	PIN(1)	PIN(2)	STATE	PIN(1)	PIN(2)	STATE	PIN(1)	PIN(2)
0	0.02398250	0.02598250	19	0.03116152	0.0225047	38	0.0008176542	0.0945450	57	0.7959111-35	0.9998160
1	0.06654661	0.09052694	20	0.03101179	0.0120004	39	0.0007110104	0.9952961	58	0.005260-35	0.9998660
2	0.09466555	0.1854995	21	0.008754997	0.7413914	40	0.0006183800	0.9958749	59	0.392826-35	0.9997095
3	0.09718886	0.1526174	22	0.007639810	0.9400312	41	0.0005377722	0.9961222	60	1.785422-35	0.9997475
4	0.09012354	0.3728004	23	0.006663936	0.9556751	42	0.0004676720	0.9966794	61	3.291979-35	0.9997806
5	0.06050144	0.4555055	24	0.005977981	0.9614930	43	0.0004067095	0.9972603	62	2.862853-35	0.9998090
6	0.07080011	0.5241057	25	0.005024715	0.9664778	44	0.0003593635	0.9976403	63	2.446177-35	0.9998339
7	0.06186463	0.5895901	26	0.004657228	0.9708475	45	0.0003075886	0.9981794	64	2.165139-35	0.9998579
8	0.09390809	0.639782	27	0.004016211	0.9746476	46	0.0002674933	0.9987254	65	1.882907-35	0.9998844
9	0.04692063	0.6667986	28	0.003364763	0.9779524	47	0.0002326246	0.9990460	66	1.637666-35	0.9999070
10	0.04081858	0.7276172	29	0.002873977	0.9808263	48	0.0002023014	0.9993503	67	1.424015-35	0.9999250
11	0.03550298	0.7631202	30	0.002499365	0.9833257	49	0.0001793908	0.9996823	68	1.258390-35	0.9999473
12	0.03087495	0.7939471	31	0.002173546	0.9854992	50	0.0001529977	0.9998793	69	1.076962-35	0.9999681
13	0.02685273	0.8202698	32	0.001830219	0.9873894	51	0.0001350539	0.9999123	70	9.365773-35	0.9999755
14	0.02359264	0.8642029	33	0.001644423	0.9890333	52	0.0001197099	0.9999286	71	9.144916-35	0.9999845
15	0.02030866	0.8649111	34	0.001429545	0.9904628	53	0.0001064284	0.9999326	72	7.083198-35	0.9999927
16	0.01766137	0.8821725	35	0.001243200	0.9917068	54	8.759797-35	0.9999422	73	6.159882-35	0.9999989
17	0.01935917	0.8975317	36	0.001081145	0.9927871	55	7.610262-35	0.9999462	74	5.359222-35	0.9999989
18	0.01335706	0.9108887	37	0.0009402139	0.9937274	56	6.618240-35	0.9999584	75	4.658610-35	0.9999989

STATE	PIN(1)	PIN(2)	STATE	PIN(1)	PIN(2)	STATE	PIN(1)	PIN(2)	STATE	PIN(1)	PIN(2)
0	0.01125526	0.01125526	56	0.006351725	0.9099739	72	0.0005454954	0.9922708	108	4.663320-35	0.9999366
1	0.03307208	0.04432734	57	0.005955866	0.9150687	73	0.0005095563	0.9927806	109	3.745378-35	0.9999801
2	0.05090006	0.09461739	58	0.005553664	0.9214523	74	0.0004789638	0.9932593	110	3.036177-35	0.9999210
3	0.03660513	0.1390457	59	0.005171837	0.9286857	75	0.0004495678	0.9937009	111	2.816612-35	0.9999491
4	0.05411684	0.2031394	60	0.004836796	0.9356052	76	0.0004215602	0.9941161	112	3.965133-35	0.9999646
5	0.09176799	0.2540074	61	0.004517955	0.9435927	77	0.0003878067	0.9945640	113	3.330162-35	0.9999521
6	0.04882707	0.3079346	62	0.004220095	0.9460203	78	0.0003623138	0.9949663	114	3.110625-35	0.9999592
7	0.04979390	0.3495237	63	0.003961890	0.9484172	79	0.0003342487	0.9953207	115	2.705561-35	0.9999563
8	0.04283797	0.3923365	64	0.003642027	0.9478292	80	0.0003161164	0.9957209	116	2.714015-35	0.9999614
9	0.04060182	0.4324053	65	0.003349293	0.9472164	81	0.0002952784	0.9961281	117	2.935696-35	0.9999606
10	0.03741202	0.4698173	66	0.0030212362	0.9464411	82	0.0002758126	0.9965020	118	2.367974-35	0.9999666
11	0.03499961	0.5047668	67	0.002700778	0.9457481	83	0.0002576299	0.9968496	119	2.211868-35	0.9999666
12	0.03266682	0.5174315	68	0.002402955	0.9440246	84	0.0002406661	0.9971953	120	2.066052-35	0.9999702
13	0.03059514	0.53679087	69	0.002161877	0.9423030	85	0.0002247181	0.9975150	121	1.925690-35	0.9999725
14	0.02846869	0.5563937	70	0.001945953	0.9405346	86	0.0002092968	0.9978056	122	1.202627-35	0.9999746
15	0.02660722	0.6230009	71	0.001724352	0.9387632	87	0.0001961217	0.9981211	123	1.663798-35	0.9999771
16	0.02489320	0.6476941	72	0.001533759	0.9370677	88	0.0001831926	0.9984043	124	1.572784-35	0.9999764
17	0.02321479	0.6710649	73	0.001393083	0.9357598	89	0.0001711198	0.9987554	125	1.446105-35	0.9999798
18	0.02168439	0.6927535	74	0.001261701	0.9342615	90	0.0001598352	0.9990753	126	1.372256-35	0.9999805
19	0.02025467	0.7130082	75	0.001138970	0.9325605	91	0.0001492983	0.9993846	127	1.281792-35	0.9999813
20	0.01919199	0.7319278	76	0.001024331	0.9308464	92	0.0001394559	0.9996240	128	1.197291-35	0.9999833
21	0.01767234	0.7496001	77	0.0009157249	0.9289202	93	0.0001302625	0.9998353	129	1.118361-35	0.9999851
22	0.01610573	0.7661074	78	0.0008117226	0.9270913	94	0.0001214751	0.9999549	130	1.044436-35	0.9999859
23	0.01541709	0.7812545	79	0.0007123707	0.9252631	95	0.0001136588	0.9999946	131	9.757368-35	0.9999861
24	0.01402240	0.7959291	80	0.0006236527	0.9234796	96	0.0001064098	0.9999998	132	9.114622-35	0.9999876
25	0.01343513	0.8093823	81	0.000545011	0.9216277-35	97	0.0001004705	0.9999999	133	8.113563-35	0.9999874
26	0.01256625	0.8219405	82	0.000477866	0.9197134	98	0.00009257-35	0.9999974	134	7.952316-35	0.9999873
27	0.01173783	0.8356164	83	0.0004107745	0.9185721	99	0.00008534-35	0.9999774	135	7.428609-35	0.9999874
28	0.01096403	0.8445916	84	0.0003491303	0.9168625	100	0.00007866-35	0.9999854	136	6.998382-35	0.9999901
29	0.01026124	0.8546964	85	0.0002972556	0.9154718	101	0.00007249-35	0.9999904	137	6.440977-35	0.9999901
30	0.009566095	0.8644577	86	0.0002421917	0.9140361	102	0.00006611-35	0.9999909	138	6.053727-35	0.9999912
31	0.008935463	0.8733932	87	0.00019761490	0.9126102	103	0.00006033-35	0.9999908	139	5.654664-35	0.9999919
32	0.008346601	0.8817396	88	0.0001565757	0.9109848	104	0.00005411-35	0.9999913	140	5.281866-35	0.9999925
33	0.007766174	0.8895357	89	0.0001169362	0.9095161	105	0.00004847-35	0.9999917	141	4.933665-35	0.9999930
34	0.007182220	0.8968180	90	0.0000829110	0.9081413	106	0.00004313-35	0.9999924	142	4.608933-35	0.9999934
35	0.006602149	0.9036201	91	0.0000583967	0.9067125	107	0.00003832-35	0.9999929	143	4.304613-35	0.9999930

STATE	PIN(1)	PIN(2)	STATE	PIN(1)	PIN(2)	STATE	PIN(1)	PIN(2)	STATE	PIN(1)	PIN(2)
0	0.004336584	0.004336584	42	0.008976508	0.6708530	84	0.002999465	0.8936836	126	0.0009365963	0.9656991
1	0.01317132	0.01750790	43	0.008738137	0.6779512	85	0.002822400	0.8965060	127	0.0009116677	0.9656758
2	0.02064760	0.03815550	44	0.00850974	0.6860974	86	0.002675759	0.8992536	128	0.0008846775	0.9656583
3	0.02334773	0.06150329	45	0.008280393	0.6936378	87	0.0025474616	0.9019282	129	0.0008639167	0.9656322
4	0.02466665	0.08554689	46	0.008060563	0.7064385	88	0.002436111	0.9046318	130	0.0008409815	0.9656192
5	0.02393525	0.1094651	47	0.007846521	0.7122849	89	0.002344079	0.9070668	131	0.0008186251	0.9656018
6	0.02508093	0.13297932	48	0.007637878	0.7199232	90	0.002266708	0.9093335	132	0.0007959423	0.9655786
7	0.02294952	0.1559587	49	0.007439462	0.7273587	91	0.0021941705	0.9119522	133	0.0007757667	0.9655569
8	0.02256759	0.1763463	50	0.007238083	0.7345967	92	0.002137966	0.9142731	134	0.0007551697	0.9655397
9	0.02180955	0.2001519	51	0.007035928	0.7416427	93	0.0020775876	0.9165490	135	0.0007351215	0.9655206
10	0.02123141	0.2213833	52	0.006858670	0.7489015	94	0.0020215436	0.9187645	136	0.0007156094	0.9655040
11	0.02066959	0.2420529	53	0.006676782	0.7531785	95	0.001966400	0.9209211	137	0.0006966076	0.9654870
12	0.02012155	0.2621744	54	0.006499525	0.7616779	96	0.001909386	0.9230205	138	0.0006781139	0.9654711
13	0.01958764	0.2817621	55	0.00632697	0.7680046	97	0.0018503631	0.9250641	139	0.0006600114	0.9654553
14	0.01906772	0.3002898	56	0.006159008	0.7746168	98	0.001799937	0.9270354	140	0.0006425867	0.9654394
15	0.01856151	0.3193914	57	0.005995467	0.7801596	99	0.001743582	0.9289901	141	0.0006255272	0.9654236
16	0.01806880	0.3376662	58	0.005836950	0.7859999	100	0.001689510	0.9308773	142	0.0006089228	0.9654077
17	0.01758913	0.3560493	59	0.005681384	0.7916171	101	0.0016339122	0.9327105	143	0.0005927592	0.9653920
18	0.01712214	0.3721714	60	0.005535959	0.7972077	102	0.0015784603	0.9345968	144	0.0005770188	0.9653762
19	0.01666760	0.3888390	61	0.005385734	0.8025914	103	0.0015234976	0.9364256	145	0.0005617000	0.9653605
20	0.01622511	0.4050641	62	0.005240805	0.8078322	104	0.0014692811	0.9382924	146	0.0005467961	0.9653448
21	0.01579436	0.4208585	63	0.0050951673	0.8129339	105	0.0014167871	0.9399765	147	0.0005322718	0.9653291
22	0.01537506	0.4362356	64	0.004946233	0.8179001	106	0.0014041237	0.9411806	148	0.0005181441	0.9653130
23	0.01496668	0.4512004	65	0.004814387	0.8227345	107	0.0013815155	0.9427422	149	0.0005054854	0.9652953
24	0.01456956	0.4677696	66	0.004670646	0.8274605	108	0.0013500801	0.9442623	150	0.0004930951	0.9652784
25	0.01418274	0.4799527	67	0.004538109	0.8320217	109	0.0013197726	0.9457630	151	0.0004779461	0.9652615
26	0.01380622	0.4977589	68	0.004405969	0.8368412	110	0.0012904462	0.9471824	152	0.00046452713	0.9652439
27	0.01343969	0.5071986	69	0.004281099	0.8408222	111	0.0012632081	0.9485616	153	0.0004529192	0.9652265
28	0.013090	0.5167816	70	0.004158416	0.8449719	112	0.0012379752	0.9498946	154	0.0004420871	0.9652091
29	0.01273557	0.530171	71	0.0040413463	0.8491617	113	0.0012138456	0.9512795	155	0.0004321960	0.9651918
30	0.01239747	0.5456146	72	0.0039240452	0.8531462	114	0.0011923463	0.9525718	156	0.0004229702	0.9651746
31	0.01206636	0.5574829	73	0.003808145	0.8570646	115	0.0011725124	0.9538309	157	0.0004140041	0.9651571
32	0.01174793	0.5692309	74	0.0036937467	0.8609590	116	0.0011525697	0.9550746	158	0.00040539704	0.9651398
33	0.01143606	0.5806660	75	0.0035839316	0.8648559	117	0.0011331557	0.9562668	159	0.0003969336	0.9651226
34	0.01113246	0.5917994	76	0.003475800	0.8687467	118	0.0011149181	0.9574112	160	0.00038871681	0.9651053
35	0.01083691	0.6026363	77	0.003369308	0.8726491	119	0.0010974519	0.9585149	161	0.0003806320	0.9650880
36	0.01054621	0.6134859	78	0.003264769	0.8765536	120	0.0010806229	0.9595862	162	0.0003726827	0.9650707
37	0.01026495	0.6243567	79	0.003161999	0.8783736	121	0.0010641710	0.9606199	163	0.0003648627	0.9650533
38	0.009996530	0.6354512	80	0.0030522956	0.8816025	122	0.0010482496	0.9617569	164	0.0003572661	0.9650359
39	0.0097373140	0.64631825	81	0.00294318216	0.8847958	123	0.0010325277	0.9627727	165	0.0003497946	0.9650185
40	0.009472799	0.6576591	82	0.00283097770	0.8878059	124	0.0009892527	0.9637853	166	0.0003424343	0.9649994
41	0.009221315	0.6686164	83	0.0027276539	0.8907861	125	0.0009620856	0.9647626	167	0.00033511793	0.9649801





STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)
168	0.0003205092	0.999077	214	8.774177E-05	0.9997827	260	2.566931E-05	0.9991668	306	7.141500E-06	0.9997243
169	0.0002944781	0.9982021	215	8.541200E-05	0.9996844	261	2.477364E-05	0.9991916	307	7.185530E-06	0.9997165
170	0.0002866604	0.9980888	216	8.314539E-05	0.9995912	262	2.411544E-05	0.9991157	308	6.996774E-06	0.9997435
171	0.0002790501	0.9979766	217	8.097921E-05	0.9995022	263	2.347575E-05	0.9991392	309	6.628030E-06	0.9997503
172	0.0002716419	0.9978644	218	7.878849E-05	0.9994110	264	2.285252E-05	0.9991620	310	6.283047E-06	0.9997569
173	0.0002644304	0.9977522	219	7.669730E-05	0.9993277	265	2.224583E-05	0.9991854	311	6.452341E-06	0.9997635
174	0.0002572703	0.9976400	220	7.466113E-05	0.9992423	266	2.165524E-05	0.9992089	312	6.210704E-06	0.9997701
175	0.0002503765	0.9975278	221	7.267901E-05	0.9991569	267	2.108030E-05	0.9992320	313	6.114295E-06	0.9997767
176	0.0002439243	0.9974156	222	7.074955E-05	0.9990708	268	2.052070E-05	0.9992567	314	5.951473E-06	0.9997832
177	0.0002374404	0.9973034	223	6.887123E-05	0.9989847	269	1.997591E-05	0.9992819	315	5.793599E-06	0.9997897
178	0.0002311448	0.9971912	224	6.704289E-05	0.9988986	270	1.944559E-05	0.9993069	316	5.640141E-06	0.9997962
179	0.0002250083	0.9970790	225	6.526304E-05	0.9988125	271	1.892935E-05	0.9993323	317	5.490407E-06	0.9998027
180	0.0002190548	0.9969668	226	6.353045E-05	0.9987264	272	1.842681E-05	0.9993577	318	5.344647E-06	0.9998092
181	0.0002132199	0.9968546	227	6.184382E-05	0.9986403	273	1.793762E-05	0.9993831	319	5.202757E-06	0.9998157
182	0.000207593	0.9967424	228	6.020199E-05	0.9985542	274	1.746141E-05	0.9994085	320	5.064641E-06	0.9998222
183	0.0002020490	0.9966302	229	5.860375E-05	0.9984681	275	1.699784E-05	0.9994339	321	4.931071E-06	0.9998287
184	0.0001968950	0.9965180	230	5.704793E-05	0.9983820	276	1.656599E-05	0.9994593	322	4.799292E-06	0.9998352
185	0.0001916436	0.9964058	231	5.553343E-05	0.9982959	277	1.610731E-05	0.9994847	323	4.671881E-06	0.9998417
186	0.0001863922	0.9962936	232	5.405913E-05	0.9982098	278	1.567969E-05	0.9995101	324	4.547851E-06	0.9998482
187	0.0001811408	0.9961814	233	5.262396E-05	0.9981237	279	1.526343E-05	0.9995355	325	4.427115E-06	0.9998547
188	0.0001760157	0.9960692	234	5.122690E-05	0.9980376	280	1.485821E-05	0.9995609	326	4.309593E-06	0.9998612
189	0.0001719249	0.9959570	235	4.986693E-05	0.9979515	281	1.446376E-05	0.9995863	327	4.195173E-06	0.9998677
190	0.0001678265	0.9958448	236	4.854306E-05	0.9978654	282	1.407777E-05	0.9996117	328	4.083799E-06	0.9998742
191	0.0001637619	0.9957326	237	4.725147E-05	0.9977793	283	1.370598E-05	0.9996371	329	3.975382E-06	0.9998807
192	0.0001597343	0.9956204	238	4.599988E-05	0.9976932	284	1.334212E-05	0.9996625	330	3.869984E-06	0.9998872
193	0.0001557339	0.9955082	239	4.477863E-05	0.9976071	285	1.298791E-05	0.9996879	331	3.767474E-06	0.9998937
194	0.0001517685	0.9953960	240	4.358984E-05	0.9975210	286	1.264311E-05	0.9997133	332	3.667198E-06	0.9999002
195	0.0001478390	0.9952838	241	4.245261E-05	0.9974349	287	1.230767E-05	0.9997387	333	3.568747E-06	0.9999067
196	0.0001439446	0.9951716	242	4.136611E-05	0.9973488	288	1.198072E-05	0.9997641	334	3.474974E-06	0.9999132
197	0.0001400902	0.9950594	243	4.032092E-05	0.9972627	289	1.166265E-05	0.9997895	335	3.382720E-06	0.9999197
198	0.0001362858	0.9949472	244	3.931423E-05	0.9971766	290	1.135303E-05	0.9998149	336	3.292916E-06	0.9999262
199	0.0001325314	0.9948350	245	3.834028E-05	0.9970905	291	1.105133E-05	0.9998403	337	3.205496E-06	0.9999327
200	0.0001288270	0.9947228	246	3.740913E-05	0.9970044	292	1.075823E-05	0.9998657	338	3.120395E-06	0.9999392
201	0.0001251726	0.9946106	247	3.651063E-05	0.9969183	293	1.047262E-05	0.9998911	339	3.037556E-06	0.9999457
202	0.0001215682	0.9944984	248	3.564467E-05	0.9968322	294	1.019496E-05	0.9999165	340	2.956915E-06	0.9999522
203	0.0001180138	0.9943862	249	3.481214E-05	0.9967461	295	9.923954E-06	0.9999419	341	2.878414E-06	0.9999587
204	0.0001145094	0.9942740	250	3.400306E-05	0.9966600	296	9.660493E-06	0.9999673	342	2.801578E-06	0.9999652
205	0.0001110550	0.9941618	251	3.321466E-05	0.9965739	297	9.402627E-06	0.9999927	343	2.726111E-06	0.9999717
206	0.0001076506	0.9940496	252	3.244233E-05	0.9964878	298	9.154367E-06	0.9999981	344	2.652412E-06	0.9999782
207	0.0001042962	0.9939374	253	3.168615E-05	0.9964017	299	8.911337E-06	0.9999935	345	2.580704E-06	0.9999847
208	0.0001010018	0.9938252	254	3.094509E-05	0.9963156	300	8.674759E-06	0.9999889	346	2.510897E-06	0.9999912
209	0.0000977574	0.9937130	255	2.999809E-05	0.9962295	301	8.445181E-06	0.9999843	347	2.442929E-06	0.9999977
210	0.0000945130	0.9936008	256	2.911409E-05	0.9961434	302	8.220278E-06	0.9999797	348	2.384206E-06	0.9999942
211	0.0000912686	0.9934886	257	2.831167E-05	0.9960573	303	8.002045E-06	0.9999751	349	2.320970E-06	0.9999907
212	0.0000880242	0.9933764	258	2.758867E-05	0.9959712	304	7.789637E-06	0.9999705	350	2.259333E-06	0.9999872
213	0.0000847798	0.9932642	259	2.685565E-05	0.9958851	305	7.582808E-06	0.9999659	351	2.199372E-06	0.9999837

M = 1, K = 2, C = 3, RND = 0.99

STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)
2	0.0002141580	0.0002141580	60	0.000693669	0.5480506	120	0.0002728276	0.7976514	190	0.0001221515	0.9094037
1	0.0006575361	0.0008716941	41	0.000612592	0.5540632	121	0.0002691982	0.8003634	181	0.0001252265	0.9106089
2	0.01042543	0.01914147	62	0.005932605	0.5599958	122	0.0002661648	0.8029996	182	0.0001189230	0.9117992
3	0.01193003	0.03107150	63	0.005893675	0.5658495	123	0.0002620832	0.8056204	183	0.0129716	0.9129716
4	0.01044307	0.04351657	64	0.005854655	0.5716253	124	0.0002585965	0.8082066	184	0.0001157798	0.9141294
5	0.01254737	0.05406230	65	0.005815635	0.5773263	125	0.0002551562	0.8107579	185	0.0001142395	0.9152718
6	0.01248826	0.06859503	66	0.005823413	0.5829746	126	0.0002517617	0.8132756	186	0.0001127189	0.9163990
7	0.01236451	0.08091505	67	0.005854336	0.5886957	127	0.0002484123	0.8157957	187	0.0001112351	0.9175112
8	0.01224682	0.09313166	68	0.005847453	0.5939702	128	0.0002451675	0.8183157	188	0.0001097405	0.9186386
9	0.01212918	0.1053522	69	0.005840169	0.5993729	129	0.0002419447	0.8208357	189	0.0001082455	0.9197660
10	0.01190265	0.1170949	70	0.005830189	0.6047829	130	0.0002387429	0.8233557	190	0.0001067505	0.9208934
11	0.011774527	0.1288640	71	0.005825822	0.6099607	131	0.0002355612	0.8258757	191	0.0001052555	0.9220208
12	0.01154940	0.1404296	72	0.005818495	0.6151647	132	0.0002323795	0.8276933	192	0.0001040482	0.9231482
13	0.01143536	0.1518849	73	0.005811927	0.6202696	133	0.0002292314	0.8299565	193	0.0001026420	0.9242756
14	0.01128329	0.1633402	74	0.005805184	0.6255214	134	0.0002261818	0.8322474	194	0.0001012670	0.9254030
15	0.01115320	0.1742814	75	0.005798406	0.6303060	135	0.0002232172	0.8344792	195	0.0000999197	0.9265304
16	0.01099510	0.1852666	76	0.005791629	0.6352243	136	0.0002202037	0.8366812	196	0.0000989590	0.9276578
17	0.01083896	0.1961055	77	0.005784881	0.6400772	137	0.0002172742	0.8388359	197	0.0000979983	0.9287852
18	0.01068476	0.2068002	78	0.005778299	0.6448665	138	0.0002143857	0.8409978	198	0.0000970375	0.9299126
19	0.01053248	0.2173527	79	0.005771759	0.6495901	139	0.0002115316	0.8431131	199	0.0000960769	0.9310400
20	0.010401209	0.2277644	80	0.005765263	0.6542518	140	0.0002087174	0.8452002	200	0.0000951179	0.9321674
21	0.01027357	0.2380384	81	0.005758740	0.6589519	141	0.0002059407	0.8472763	201	0.0000941593	0.9332948
22	0.01013649	0.2481753	82	0.005752215	0.6635980	142	0.0002032009	0.8492917	202	0.0000932007	0.9344222
23	0.01000244	0.2581773	83	0.005745682	0.6682862	143	0.0002004976	0.8512966	203	0.0000922417	0.9355496
24	0.009868976	0.2680465	84	0.005739157	0.6722668	144	0.0001978033	0.8532749	204	0.0000912834	0.9366770
25	0.009737682	0.2777840	85	0.005732632	0.6766466	145	0.0001951984	0.8552269	205	0.0000903248	0.9378044
26	0.009608135	0.2873921	86	0.005726107	0.6809948	146	0.0001926015	0.8571529	206	0.0000893662	0.9389318
27	0.009480309	0.2967844	87	0.005719582	0.6853929	147	0.0001900392	0.8590553	207	0.0000884076	0.9400592
28	0.009352858	0.3059268	88	0.005713057	0.6897811	148	0.0001874818	0.8609308	208	0.0000874490	0.9411866
29	0.009224972	0.3154556	89	0.005706532	0.6941510	149	0.0001849447	0.8627786	209	0.0000864904	0.9423140
30	0.009100693	0.3245655	90	0.005700007	0.6985908	150	0.0001824255	0.8646042	210	0.0000855318	0.9434414
31	0.008985799	0.3335491	91	0.005693482	0.7031109	151	0.0001801264	0.8664054	211	0.0000845732	0.9445688
32	0.008868251	0.3424154	92	0.005686957	0.7055836	152	0.0001777302	0.8681827	212	0.0000836146	0.9456962
33	0.008748297	0.3511637	93	0.005680432	0.7090506	153	0.0001753835	0.8699336	213	0.0000826560	0.9468236
34	0.008628315	0.3597956	94	0.005673907	0.7133651	154	0.0001730525	0.8716667	214	0.0000816974	0.9479510
35	0.008517075	0.3683127	95	0.005667382	0.7171785	155	0.0001707306	0.8733740	215	0.0000807388	0.9490784
36	0.008403767	0.3767184	96	0.005660857	0.7209910	156	0.0001684592	0.8750586	216	0.0000797802	0.9502058
37	0.008290006	0.3850241	97	0.005654332	0.7248035	157	0.0001661878	0.8767170	217	0.0000788216	0.9513332
38	0.008181654	0.3931191	98	0.005647807	0.7286160	158	0.0001639408	0.8783609	218	0.0000778630	0.9524606
39	0.008072808	0.4012249	99	0.005641282	0.7323910	159	0.0001616844	0.8799791	219	0.0000769044	0.9535880
40	0.007964540	0.4092283	100	0.005634757	0.7359474	160	0.0001594620	0.8815758	220	0.0000759458	0.9547154
41	0.007855939	0.4170877	101	0.005628232	0.7394642	161	0.0001572578	0.8831513	221	0.0000749872	0.9558428
42	0.007751781	0.4248826	102	0.005621707	0.7424883	162	0.0001550518	0.8847058	222	0.0000740286	0.9569702
43	0.007651813	0.4324943	103	0.005615182	0.7459141	163	0.0001528457	0.8862394	223	0.0000730700	0.9580976
44	0.007549915	0.4400462	104	0.005608657	0.7492944	164	0.0001506412	0.8877529	224	0.0000721114	0.9592250
45	0.007448017	0.4474937	105	0.005602132	0.7526297	165	0.0001484377	0.8892464	225	0.0000711528	0.9603524
46	0.007346119	0.4548461	106	0.005595607	0.7559181	166	0.0001462332	0.8907199	226	0.0000701942	0.9614798
47	0.007252581	0.4620967	107	0.005589082	0.7591678	167	0.0001440297	0.8921734	227	0.0000692356	0.9626072
48	0.007159096	0.4692528	108	0.005582557	0.7623717	168	0.0001418262	0.8936082	228	0.0000682770	0.9637346
49	0.007060899	0.4763137	109	0.005576032	0.7655351	169	0.0001396227	0.8950235	229	0.0000673184	0.9648620
50	0.006966996	0.4832806	110	0.005569507	0.7686574	170	0.0001374192	0.8964201	230	0.0000663598	0.9659894
51	0.006872721	0.4901459	111	0.005562982	0.7717301	171	0.0001352157	0.8977981	231	0.0000654012	0.9671168
52	0.006782819	0.4969377	112	0.005556457	0.7747670	172	0.0001330122	0.8991578	232	0.0000644426	0.9682442
53	0.006692581	0.5036303	113	0.005549932	0.7777634	173	0.0001308087	0.9004993	233	0.0000634840	0.9693716
54	0.006602346	0.5102238	114	0.005543407	0.7807199	174	0.0001286052	0.9018230	234	0.0000625254	0.9704990
55	0.006512111	0.5167996	115	0.005536882	0.7836412	175	0.0001264017	0.9031292	235	0.0000615668	0.9716264
56	0.006421876	0.5232176	116	0.005530357	0.7865155	176	0.0001241982	0.9044179	236	0.0000606082	0.9727538
57	0.006331641	0.5295211	117	0.005523832	0.7893558	177	0.0001219947	0.9056932	237	0.0000596496	0.9738812
58	0.006241406	0.5357811	118	0.005517307	0.7921581	178	0.0001197912	0.9069494	238	0.0000586910	0.9750086
59	0.006151171	0.5419570	119	0.005510782	0.7949231	179	0.0001175877	0.9081821	239	0.0000577324	0.9761360





STATE	PIN=1	PIN=1	STATE	PIN=1	PIN=1	STATE	PIN=1	PIN=1	STATE	PIN=1	PIN=1
240	0.0005469015	0.9594378	354	0.0001188033	0.9911888	468	2.5607651-05	0.9980859	542	5.6061931-06	0.9995862
241	0.0009396258	0.9599774	355	0.0001172228	0.9913059	469	2.5646111-05	0.9981114	543	5.5316101-06	0.9995897
242	0.0005326447	0.9605099	356	0.0001156633	0.9914215	470	2.5123551-05	0.9981365	544	5.4580101-06	0.9995932
243	0.0005253633	0.9610353	357	0.0001141246	0.9915357	471	2.4791217-05	0.9981613	545	5.3850101-06	0.9996005
244	0.0005183739	0.9615538	358	0.0001126063	0.9916483	472	2.4466146-05	0.9981855	546	5.3137101-06	0.9996058
245	0.0005111777	0.9620651	359	0.0001111642	0.9917594	473	2.4133021-05	0.9982099	547	5.2430101-06	0.9996111
246	0.0005046732	0.9625898	360	0.0001096301	0.9918766	474	2.3814941-05	0.9982337	548	5.1733171-06	0.9996163
247	0.0004979591	0.9630678	361	0.0001081716	0.9919772	475	2.3498111-05	0.9982572	549	5.1044931-06	0.9996214
248	0.0004913346	0.9635591	362	0.0001067245	0.9920859	476	2.3183961-05	0.9982803	550	5.0365831-06	0.9996266
249	0.0004848797	0.9640439	363	0.0001053326	0.9921892	477	2.2877701-05	0.9983032	551	4.9695781-06	0.9996316
250	0.0004784842	0.9645222	364	0.0001039115	0.9922831	478	2.2572701-05	0.9983258	552	4.9036651-06	0.9996363
251	0.0004719845	0.9649963	365	0.0001025291	0.9923957	479	2.2272391-05	0.9983481	553	4.8382311-06	0.9996411
252	0.0004657053	0.9654599	366	0.0001011651	0.9924968	480	2.1975681-05	0.9983701	554	4.7733611-06	0.9996459
253	0.0004595087	0.9659194	367	0.0001001927	0.9925923	481	2.1683721-05	0.9983917	555	4.7103911-06	0.9996506
254	0.0004533965	0.9663728	368	0.0000989151	0.9926923	482	2.1395261-05	0.9984131	556	4.6476861-06	0.9996552
255	0.0004473648	0.9668202	369	0.0000977101	0.9927923	483	2.1110101-05	0.9984342	557	4.5858561-06	0.9996598
256	0.0004414131	0.9672616	370	0.0000965881	0.9928923	484	2.0829771-05	0.9984551	558	4.5240491-06	0.9996644
257	0.0004355407	0.9676971	371	0.0000954248	0.9929923	485	2.0552661-05	0.9984756	559	4.4622521-06	0.9996688
258	0.0004297445	0.9681269	372	0.0000943355	0.9930923	486	2.0279231-05	0.9984959	560	4.4005251-06	0.9996732
259	0.0004240291	0.9685509	373	0.0000932115	0.9931945	487	2.0009441-05	0.9985159	561	4.3388001-06	0.9996776
260	0.0004183881	0.9689693	374	0.0000921563	0.9932968	488	1.9743241-05	0.9985357	562	4.2770221-06	0.9996819
261	0.0004128220	0.9693822	375	0.0000911693	0.9933988	489	1.9480051-05	0.9985551	563	4.2152601-06	0.9996861
262	0.0004073298	0.9697896	376	0.0000902493	0.9934973	490	1.9221421-05	0.9985744	564	4.1535071-06	0.9996903
263	0.0004019139	0.9701914	377	0.0000893927	0.9935924	491	1.8965701-05	0.9985933	565	4.0917541-06	0.9996943
264	0.0003965409	0.9705880	378	0.0000885959	0.9936858	492	1.8713381-05	0.9986120	566	4.0300101-06	0.9996981
265	0.0003912882	0.9709792	379	0.0000878591	0.9937779	493	1.8464641-05	0.9986305	567	3.9682671-06	0.9997025
266	0.0003860826	0.9713653	380	0.0000871811	0.9938685	494	1.8218781-05	0.9986488	568	3.9065241-06	0.9997066
267	0.0003809443	0.9717463	381	0.0000865623	0.9939545	495	1.7976401-05	0.9986667	569	3.8447811-06	0.9997102
268	0.0003758783	0.9721221	382	0.0000859927	0.9940396	496	1.7737281-05	0.9986845	570	3.7830381-06	0.9997143
269	0.0003708778	0.9724951	383	0.0000854735	0.9941241	497	1.7501281-05	0.9987019	571	3.7212951-06	0.9997179
270	0.0003659346	0.9728590	384	0.0000849993	0.9942066	498	1.7268451-05	0.9987192	572	3.6595521-06	0.9997218
271	0.0003610754	0.9732201	385	0.0000845657	0.9942824	499	1.7038221-05	0.9987363	573	3.5978091-06	0.9997255
272	0.0003562718	0.9735783	386	0.0000841677	0.9943568	500	1.6812051-05	0.9987531	574	3.5360661-06	0.9997291
273	0.0003515119	0.9739327	387	0.0000838003	0.9944299	501	1.6588851-05	0.9987696	575	3.4743231-06	0.9997327
274	0.0003468553	0.9742747	388	0.0000834689	0.9945016	502	1.6367681-05	0.9987860	576	3.4125801-06	0.9997362
275	0.0003422408	0.9746189	389	0.0000831675	0.9945723	503	1.6148521-05	0.9988022	577	3.3508371-06	0.9997397
276	0.0003376678	0.9749544	390	0.0000828921	0.9946425	504	1.5931301-05	0.9988181	578	3.2890941-06	0.9997432
277	0.0003331393	0.9752879	391	0.0000826397	0.9947118	505	1.5715101-05	0.9988338	579	3.2273511-06	0.9997466
278	0.0003286452	0.9756160	392	0.0000824063	0.9947802	506	1.5501911-05	0.9988493	580	3.1656081-06	0.9997500
279	0.0003241887	0.9759410	393	0.0000821899	0.9948473	507	1.5290721-05	0.9988647	581	3.1038651-06	0.9997534
280	0.0003200752	0.9762611	394	0.0000819885	0.9949141	508	1.5082531-05	0.9988797	582	3.0421221-06	0.9997566
281	0.0003161510	0.9765769	395	0.0000818003	0.9949794	509	1.4877341-05	0.9988946	583	2.9803791-06	0.9997599
282	0.0003123155	0.9768885	396	0.0000816243	0.9950436	510	1.4674081-05	0.9989094	584	2.9186361-06	0.9997631
283	0.0003085695	0.9771959	397	0.0000814583	0.9951067	511	1.4472821-05	0.9989239	585	2.8568931-06	0.9997662
284	0.0003049119	0.9775093	398	0.0000813017	0.9951682	512	1.4273561-05	0.9989382	586	2.7951501-06	0.9997693
285	0.0003013439	0.9777786	399	0.0000811535	0.9952283	513	1.4076301-05	0.9989525	587	2.7334071-06	0.9997724
286	0.0002978652	0.9780490	400	0.0000810127	0.9952869	514	1.3881041-05	0.9989667	588	2.6716641-06	0.9997754
287	0.0002944297	0.9783245	401	0.0000808793	0.9953446	515	1.3687781-05	0.9989808	589	2.6099211-06	0.9997784
288	0.0002910258	0.9786000	402	0.0000807523	0.9954018	516	1.3496521-05	0.9989949	590	2.5481781-06	0.9997814
289	0.0002876472	0.9788764	403	0.0000806317	0.9954587	517	1.3307261-05	0.9990090	591	2.4864351-06	0.9997844
290	0.0002842935	0.9791529	404	0.0000805165	0.9955152	518	1.3119001-05	0.9990229	592	2.4246921-06	0.9997872
291	0.0002809648	0.9794294	405	0.0000804057	0.9955713	519	1.2932741-05	0.9990367	593	2.3629491-06	0.9997900
292	0.0002776612	0.9797059	406	0.0000802993	0.9956270	520	1.2748481-05	0.9990504	594	2.3012061-06	0.9997928
293	0.0002743826	0.9800054	407	0.0000801973	0.9956823	521	1.2565221-05	0.9990640	595	2.2394631-06	0.9997955
294	0.0002711295	0.9802817	408	0.0000800997	0.9957374	522	1.2382961-05	0.9990775	596	2.1777201-06	0.9997982
295	0.0002679019	0.9805581	409	0.0000800065	0.9957921	523	1.2202701-05	0.9990909	597	2.1159771-06	0.9998009
296	0.0002646998	0.9808346	410	0.0000800177	0.9958465	524	1.2023441-05	0.9991043	598	2.0542341-06	0.9998035
297	0.0002615232	0.9811111	411	0.0000800333	0.9959006	525	1.1845181-05	0.9991177	599	1.9924911-06	0.9998061
298	0.0002583719	0.9813876	412	0.0000800533	0.9959544	526	1.1667921-05	0.9991311	600	1.9307481-06	0.9998087
299	0.0002552363	0.9816641	413	0.0000800777	0.9960083	527	1.1491661-05	0.9991445	601	1.8690051-06	0.9998113
300	0.0002521163	0.9819406	414	0.0000801065	0.9960623	528	1.1316401-05	0.9991579	602	1.8072621-06	0.9998139
301	0.0002490119	0.9822171	415	0.0000801397	0.9961164	529	1.1142141-05	0.9991713	603	1.7455191-06	0.9998163
302	0.0002459235	0.9824936	416	0.0000801773	0.9961705	530	1.0968881-05	0.9991847	604	1.6837761-06	0.9998187
303	0.0002428501	0.9827701	417	0.0000802193	0.9962246	531	1.0796621-05	0.9991981	605	1.6220331-06	0.9998211
304	0.0002397817	0.9830466	418	0.0000802657	0.9962787	532	1.0625361-05	0.9992115	606	1.5602901-06	0.9998235
305	0.0002367283	0.9833231	419	0.0000803165	0.9963328	533	1.0455101-05	0.9992249	607	1.4985471-06	0.9998259
306	0.0002336899	0.9836000	420	0.0000803717	0.9963869	534	1.0285841-05	0.9992383	608	1.4368041-06	0.9998282
307	0.0002306675	0.9838765	421	0.0000804313	0.9964410	535	1.0117581-05	0.9992517	609	1.3750611-06	0.9998305
308	0.0002276611	0.9841530	422	0.0000804953	0.9964951	536	0.9950321-05	0.9992651	610	1.3133181-06	0.9998328
309	0.0002246707	0.9844295	423	0.0000805637	0.9965492	537	0.9783161-05	0.9992785	611	1.2515751-06	0.9998351
310	0.0002216963	0.9847060	424	0.0000806365	0.9966033	538	0.9616001-05	0.9992919	612	1.1898321-06	0.9998374
311	0.0002187379	0.9849825	425	0.0000807137	0.9966574	539	0.9448841-05	0.9993053	613	1.1280891-06	0.9998397
312	0.0002157955	0.9852590	426	0.0000807953	0.9967115	540	0.9281681-05	0.9993187	614	1.0663461-06	0.9998419
313	0.0002128691	0.9855355	427	0.0000808813	0.9967656	541	0.9114521-05	0.9993321	615	1.0046031-06	0.9998441
314	0.0002099587	0.9858120	428	0.0000809717	0.9968197	542	0.8947361-05	0.9993455	616	0.9428601-06	0.9998463
315	0.0002070543	0.9860885	429	0.0000810665	0.9968738	543	0.8780201-05	0.99			



M = 1 , K = 2 , C = 3

RHO	P(DELAY)	L(GIVEN K)	LQ(GIVEN K)	LQ FOR K=1	RATIO
0.10	0.003680291	0.3003411	0.0003410922	0.0004115226	0.8288546
0.20	0.02439715	0.6050112	0.005011179	0.006164383	0.8129245
0.30	0.06913173	0.9239928	0.02399281	0.03001235	0.7994314
0.40	0.1392838	1.274176	0.07417566	0.09411764	0.7981158
0.50	0.2338284	1.684420	0.1844197	0.2368421	0.7786609
0.55	0.2896500	1.927531	0.2775316	0.3583211	0.7745332
0.60	0.3508055	2.210134	0.4101337	0.5321168	0.7707587
0.65	0.4170142	2.550264	0.6002652	0.7823026	0.7673056
0.70	0.4879999	2.977852	0.8778525	1.148804	0.7641448
0.75	0.5634938	3.546615	1.296615	1.703271	0.7612498
0.80	0.6432385	4.363828	1.963828	2.588763	0.7585958
0.85	0.7269880	5.679611	3.129612	4.138801	0.7561640
0.90	0.8145094	8.244074	5.544073	7.353549	0.7539317
0.95	0.9055825	15.80731	12.95731	17.23315	0.7518824
0.98	0.9618444	38.34470	35.40469	47.16011	0.7507339
0.99	0.9808585	75.85707	72.88707	97.13564	0.7503638





M = 1, K = 2, C = 4, RHO = 3.05									
STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	PINC(I)
0	0.0703059	0.0703059	7	3.9447057-37	0.9999999	0	0.00618475	0.00618475	0.9985525
1	0.0701244	0.9786284	8	2.9321287-38	0.9999999	1	0.1679822	0.2321690	0.9991627
2	0.05562821	0.9920546	9	2.1064107-39	0.9999999	2	0.2211363	0.4533453	0.9905595
3	0.007154286	0.9992109	10	1.6755777-40	0.9999999	3	0.1970335	0.6503388	0.9902724
4	0.0007200690	0.9999310	11	1.0152027-41	0.9999999	4	0.1374043	0.7877451	0.9900445
5	0.3415847-05	0.9999994	12	6.8805347-43	0.9999999	5	0.34667956	0.8746727	0.9999113
6	5.1529077-08	0.9999995	13	4.4052117-44	0.9999999	6	0.92524562	0.9271184	0.9999494
M = 1, K = 2, C = 4, RHO = 3.20									
STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	PINC(I)
0	0.4490399	0.4490399	9	8.2707997-07	0.9999998	0	0.04928395	0.04928395	0.9972109
1	0.3592818	0.8083215	10	1.2077287-07	0.9999999	1	0.1390576	0.1883216	0.9942504
2	0.1457823	0.9521039	11	1.7388317-08	0.9999999	2	0.1976400	0.3829618	0.9909027
3	0.03843068	0.9905345	12	2.4784727-09	0.9999999	3	0.1904912	0.5764528	0.9905118
4	0.007798607	0.9983329	13	5.4975167-10	0.9999999	4	0.1641917	0.7206445	0.9995683
5	0.001395103	0.9997261	14	6.9073317-11	0.9999999	5	0.09936580	0.8199903	0.9997295
6	0.0002309403	0.9999570	15	6.8502307-12	0.9999999	6	0.03955210	0.8854424	0.9900891
7	5.6651757-05	0.9999934	16	9.5241267-13	0.9999999	7	0.0621229	0.9275947	0.9998915
8	5.5594417-06	0.9999990	17	1.3200167-13	0.9999999	8	0.02880558	0.9995955	0.9999352
M = 1, K = 2, C = 4, RHO = 3.38									
STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	PINC(I)
0	0.2999355	0.2999355	9	2.6727127-05	0.9999927	0	0.04928395	0.04928395	0.9972109
1	0.3601285	0.4600640	10	5.6520597-06	0.9999983	1	0.1390576	0.1883216	0.9942504
2	0.2164155	0.8764796	11	1.2789587-06	0.9999998	2	0.1976400	0.3829618	0.9909027
3	0.08704132	0.9655209	12	2.8731057-07	0.9999999	3	0.1904912	0.5764528	0.9905118
4	0.02475213	0.9902750	13	6.4204617-08	0.9999999	4	0.1641917	0.7206445	0.9995683
5	0.0057285070	0.9975981	14	1.42429377-08	0.9999999	5	0.09936580	0.8199903	0.9997295
6	0.001852223	0.9996103	15	3.1732467-09	0.9999999	6	0.03955210	0.8854424	0.9900891
7	3.000460957	0.9996613	16	7.0309207-10	0.9999999	7	0.0621229	0.9275947	0.9998915
8	0.0001066606	0.9999679	17	1.3555787-10	0.9999998	8	0.02880558	0.9995955	0.9999352
M = 1, K = 2, C = 4, RHO = 3.40									
STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	PINC(I)
0	0.1987910	0.1987910	11	2.5698387-05	0.9999681	0	0.03884573	0.03884573	0.9999595
1	0.5185390	0.5173301	12	8.1469517-06	0.9999662	1	0.1118224	0.1468864	0.9972532
2	0.2557245	0.7730547	13	2.5544917-04	0.9999988	2	0.1704462	0.3189169	0.9908101
3	0.1377594	0.9108241	14	7.9955497-07	0.9999998	3	0.1768159	0.4837688	0.9908495
4	0.05710257	0.9879244	15	2.4987467-07	0.9999999	4	0.1449994	0.4403682	0.9901078
5	0.02111062	0.9890321	16	7.8017257-08	0.9999999	5	0.1079662	0.7463325	0.9902059
6	0.007352191	0.9963693	17	2.6340007-08	0.9999999	6	0.07728401	0.8256184	0.9995808
7	0.002525292	0.9966218	18	7.5950127-09	0.9999999	7	0.05617516	0.8797938	0.9997124
8	0.0008009462	0.9994228	19	2.3476497-09	0.9999999	8	0.03756806	0.9175618	0.9999330
9	0.0002575237	0.9998403	20	7.5814477-10	0.9999999	9	0.02590672	0.8432685	0.9996649
10	8.1948917-05	0.9999622	21	2.3009827-10	0.9999999	10	0.01781343	0.9610819	0.9999074
M = 1, K = 2, C = 4, RHO = 3.50									
STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	PINC(I)
0	0.1296711	0.1296711	12	0.0001053831	0.9999264	0	0.02851399	0.02851399	0.9995011
1	0.2601230	0.3897842	13	4.3340407-05	0.9999946	1	0.08583790	0.1125519	0.9957524
2	0.2617903	0.6515846	14	1.7805017-05	0.9999676	2	0.1402288	0.2525808	0.9908127
3	0.1773657	0.8289502	15	7.3096767-06	0.9999946	3	0.1559725	0.4005532	0.9976634
4	0.09306555	0.9220557	16	2.9996646-08	0.9999979	4	0.1371700	0.3457233	0.9906018
5	0.04581881	0.9595908	17	1.2308557-06	0.9999991	5	0.1105129	0.2542356	0.9906782
6	0.01954658	0.9854551	18	5.0481407-07	0.9999997	6	0.08557416	0.7418137	0.9903336
7	0.008451874	0.9958849	19	2.0705437-07	0.9999998	7	0.06501116	0.40048249	0.9902480
8	0.003567545	0.9974545	20	8.4920267-08	0.9999999	8	0.04918548	0.2557418	0.9901854
9	0.001491631	0.9989441	21	5.4827557-08	0.9999999	9	0.03443478	0.3492378	0.9901935
10	0.0008191034	0.9995452	22	1.4283177-08	0.9999999	10	0.02736984	0.9197444	0.9901036
11	0.0002557896	0.9998211	23	5.4576117-09	0.9999999	11	0.02042361	0.9401720	0.9901752
M = 1, K = 2, C = 4, RHO = 3.55									
STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	PINC(I)
0	0.1036973	0.1036973	12	0.0003689015	0.9997361	0	0.0752237	0.9752237	0.9999707
1	0.2290518	0.3327491	13	0.0001421566	0.9998770	1	0.008309532	0.0815352	0.9999008
2	0.2540321	0.66107047-05	14	0.0007047-05	0.9999432	2	0.04702846	0.9842360	0.9999456
3	0.1899909	0.7747722	15	0.0555437-05	0.9999757	3	0.0897413	0.9897413	0.9999814
4	0.1104509	0.8872231	16	1.4119157-05	0.9999628	4	0.003505232	0.9923538	0.9999715
5	0.05784095	0.9450441	17	6.5231597-06	0.9999964	5	0.002612576	0.9923538	0.9999715
6	0.02873880	0.9738229	18	3.0134577-06	0.9999974	STATE I			
7	0.01385568	0.9876786	19	1.3920257-06	0.9999974	0	0.01792444	0.01792444	0.9996654
8	0.004654645	0.9942440	20	4.5005957-07	0.9999994	1	0.046178158	0.046178158	0.9994887
9	0.003079230	0.9973253	21	2.9701197-07	0.9999997	2	0.1075784	0.3187285	0.9908774
10	0.001655331	0.9987586	22	1.3719167-07	0.9999999	3	0.1278005	0.3135045	0.9907672
11	0.0006465986	0.9994252	23	6.3349217-08	0.9999999	4	0.1204439	0.3555290	0.9907310
M = 1, K = 2, C = 4, RHO = 3.60									
STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	PINC(I)
0	0.08212364	0.08212364	13	0.0004187469	0.9995542	0	0.08708967	0.6264795	0.9982534
1	0.1981235	0.2802471	14	0.0002159647	0.9997702	1	0.07136005	0.6062485	0.9985915
2	0.2022000	0.5204471	15	0.000113506	0.9998815	2	0.05402987	0.7562788	0.9986873
3	0.1947149	0.7171820	16	5.7400387-05	0.9999189	3	0.04499214	0.8032704	0.9900832
4	0.1256855	0.8428655	17	2.9586347-05	0.9999685	4	0.05797803	0.8612496	0.9992604
5	0.07259810	0.9154437	18	1.5249037-05	0.9999837	5	0.03064549	0.8719151	0.9994034
6	0.03987609	0.9553398	19	7.6591987-06	0.9999916	6	0.02477899	0.8966411	0.9991886
7	0.02131167	0.9765514	20	4.0504757-06	0.9999956	7	0.01964667	0.9166857	0.9996117
8	0.01121545	0.9878869	21	2.0875117-06	0.9999977	8	0.01611156	0.9327453	0.9996867
9	0.005850181	0.9957171	22	1.0758647-06	0.9999984	9	0.01299820	0.9457435	0.9997475
10	0.003014002	0.9967531	23	5.5445757-07	0.9999994	10	0.01048622	0.9562297	0.9997961
11	0.001570915	0.9985240	24	2.8574997-07	0.9999996	11	0.00845998	0.9646499	0.9998155
12	0.0008114534	0.9991354	25	1.4726437-07	0.9999998	12	0.00642405	0.9701195	0.9998910
M = 1, K = 2, C = 4, RHO = 3.70									
STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	PINC(I)
0	0.4490399	0.4490399	9	8.2707997-07	0.9999998	0	0.04928395	0.04928395	0.9972109
1	0.3592818	0.3592818	10	1.2077121-07	0.9999999	1	0.1390576	0.1883216	0.9942504
2	0.1457823	0.9521039	11	1.7388317-06	0.9999999	2	0.1976400	0.3829618	0.9909027
3	0.03843068	0.9905345	12	2.4784727-09	0.9999999	3	0.1904912	0.5764528	0.9905118
4	0.007798607	0.9983329	13	5.4975167-10	0.9999999	4	0.1641917	0.7206445	0.9995683
5	0.001395103	0.9997261	14	6.907					





M = 1, K = 2, C = 4, RHO = 0.90

STATE I	P(N=1)	P(N<=1)	STATE I	P(N=1)	P(N<=1)	STATE I	P(N=1)	P(N<=1)	STATE I	P(N=1)	P(N<=1)
0	0.01079275	0.01079275	19	0.012490879	0.012490879	38	0.0009086005	0.0009086005	57	0.3961311	0.39699732
1	0.03947666	0.03947666	20	0.011240604	0.011240604	39	0.0007902137	0.0007902137	58	0.362136	0.3966249
2	0.07302475	0.07302475	21	0.009762738	0.009762738	40	0.000677649	0.000677649	59	0.4437303	0.3966772
3	0.09235591	0.09235591	22	0.00840134	0.00840134	41	0.0005976274	0.0005976274	60	0.206743	0.3967193
4	0.09296727	0.09296727	23	0.007383461	0.007383461	42	0.0005197246	0.0005197246	61	0.658382	0.3967577
5	0.08625907	0.08625907	24	0.00640966	0.00640966	43	0.0004519769	0.0004519769	62	1.181501	0.3967759
6	0.07728753	0.07728753	25	0.005583975	0.005583975	44	0.0003910403	0.0003910403	63	2.766702	0.3968154
7	0.06815487	0.06815487	26	0.004956084	0.004956084	45	0.0003418216	0.0003418216	64	2.406123	0.3968396
8	0.05965720	0.05965720	27	0.004223074	0.004223074	46	0.0002972658	0.0002972658	65	2.092478	0.3968603
9	0.05203809	0.05203809	28	0.003672589	0.003672589	47	0.0002585163	0.0002585163	66	1.819717	0.3968786
10	0.04531487	0.04531487	29	0.003193456	0.003193456	48	0.0002248179	0.0002248179	67	1.582511	0.3968954
11	0.03943783	0.03943783	30	0.002777526	0.002777526	49	0.0001955122	0.0001955122	68	1.376225	0.3969081
12	0.03430634	0.03430634	31	0.002415467	0.002415467	50	0.0001700264	0.0001700264	69	1.196830	0.3969291
13	0.02983852	0.02983852	32	0.002130635	0.002130635	51	0.0001474631	0.0001474631	70	1.040819	0.3969306
14	0.02595043	0.02595043	33	0.001824783	0.001824783	52	0.0001285886	0.0001285886	71	0.951456	0.3969396
15	0.02256854	0.02256854	34	0.001588666	0.001588666	53	0.000118267	0.000118267	72	0.871572	0.3969476
16	0.01942692	0.01942692	35	0.001381570	0.001381570	54	0.00010787	0.00010787	73	0.845687	0.3969563
17	0.01706859	0.01706859	36	0.001201478	0.001201478	55	0.000100086	0.000100086	74	0.853157	0.3969602
18	0.01484369	0.01484369	37	0.001050862	0.001050862	56	0.00009661	0.00009661	75	0.877144	0.3969656

M = 1, K = 2, C = 4, RHO = 0.95

STATE I	P(N=1)	P(N<=1)	STATE I	P(N=1)	P(N<=1)	STATE I	P(N=1)	P(N<=1)	STATE I	P(N=1)	P(N<=1)
0	0.004883215	0.004883215	36	0.006691691	0.006691691	72	0.0005745112	0.0005745112	108	0.932433	0.9993011
1	0.01889666	0.02377987	37	0.006250599	0.0114558	73	0.0005356371	0.0023964	109	0.902767	0.9993072
2	0.03703088	0.06081075	38	0.005858487	0.0127263	74	0.0005012599	0.0028976	110	0.830556	0.9993122
3	0.04971540	0.1105261	39	0.005653598	0.0227279	75	0.0004682150	0.0033658	111	0.410836	0.9993104
4	0.05320596	0.1638221	40	0.005096070	0.0276219	76	0.0004373406	0.0043031	112	0.375483	0.9993080
5	0.0581661	0.2186467	41	0.004758250	0.0329802	77	0.0004085167	0.00482117	113	0.350728	0.9993030
6	0.0645749	0.2672964	42	0.00445546	0.0370263	78	0.0003818359	0.0054003	114	0.274602	0.9993056
7	0.0788565	0.3151841	43	0.004151566	0.0411764	79	0.0003564102	0.0064949	115	0.060111	0.9993054
8	0.09479027	0.3601545	44	0.003877879	0.0450542	80	0.0003329329	0.0082286	116	0.256377	0.9993050
9	0.04210762	0.4022619	45	0.003622234	0.0486765	81	0.0003109467	0.0095936	117	0.266994	0.9993021
10	0.03937453	0.4416364	46	0.003383445	0.0520959	82	0.0002904835	0.0109881	118	0.293927	0.9993066
11	0.03679671	0.4784332	47	0.003160393	0.0552203	83	0.0002713336	0.0126155	119	0.232920	0.9993099
12	0.03437839	0.5128115	48	0.002952048	0.0581723	84	0.0002534446	0.0146089	120	0.217594	0.9993177
13	0.03211513	0.5464267	49	0.002757438	0.0609298	85	0.0002367382	0.0166656	121	0.203252	0.9993120
14	0.02999926	0.5749260	50	0.002575687	0.0635054	86	0.0002211315	0.0188868	122	0.895111	0.9993109
15	0.02802213	0.6029481	51	0.002405860	0.0659113	87	0.0002068537	0.0207703	123	0.773555	0.9993087
16	0.02617502	0.6291231	52	0.002247256	0.0681589	88	0.0001922649	0.0227262	124	0.658667	0.9993033
17	0.02444455	0.6537527	53	0.002099139	0.0702574	89	0.0001782177	0.0247645	125	0.547248	0.9993007
18	0.02283776	0.6784104	54	0.001960727	0.0722184	90	0.0001683371	0.0267618	126	0.445248	0.9993057
19	0.02133225	0.6977427	55	0.001831449	0.0740469	91	0.0001572396	0.0287720	127	0.349972	0.9993087
20	0.01992595	0.7176687	56	0.001710731	0.0757406	92	0.0001467873	0.0297189	128	0.260977	0.9993101
21	0.01861235	0.7362810	57	0.001597953	0.0773585	93	0.0001361913	0.0307051	129	0.177866	0.9993031
22	0.01733834	0.7536663	58	0.001492440	0.0788511	94	0.0001261471	0.0316814	130	0.100200	0.9993041
23	0.01623025	0.7699056	59	0.001394212	0.0802454	95	0.0001169992	0.0326039	131	0.027678	0.9993054
24	0.01516870	0.7850765	60	0.001302320	0.0813477	96	0.0001081082	0.0336158	132	0.999249	0.9993060
25	0.01416872	0.7992630	61	0.001216447	0.0827661	97	0.0001004573	0.0346611	133	0.866611	0.9993072
26	0.01323656	0.8124777	62	0.001136254	0.0845006	98	0.0000935667	0.0357311	134	0.753511	0.9993081
27	0.01242618	0.8249599	63	0.001061368	0.0864617	99	0.0000871008	0.0368218	135	0.658218	0.9993091
28	0.01167722	0.8363871	64	0.000991380	0.0885953	100	0.0000811614	0.0379606	136	0.573076	0.9993096
29	0.01097858	0.8467131	65	0.000926225	0.0908479	101	0.0000753035	0.0391687	137	0.492570	0.9993103
30	0.010307495	0.8572400	66	0.0008649772	0.0932761	102	0.0000701372	0.0404377	138	0.417532	0.9993096
31	0.0096410750	0.8664588	67	0.00080870547	0.0958530	103	0.0000653667	0.0417811	139	0.345520	0.9993156
32	0.0089790359	0.8735491	68	0.0007546912	0.0985067	104	0.0000613587	0.0431958	140	0.282816	0.9993211
33	0.0083210864	0.8803600	69	0.0007049390	0.1012011	105	0.0000578407	0.0446824	141	0.228646	0.9993263
34	0.0076649572	0.8871326	70	0.0006584467	0.1038470	106	0.0000546207	0.0462307	142	0.183568	0.9993312
35	0.007163964	0.8948435	71	0.0006150562	0.1064282	107	0.0000518577	0.0478518	143	0.153383	0.9993357

M = 1, K = 2, C = 4, RHO = 0.98

STATE I	P(N=1)	P(N<=1)	STATE I	P(N=1)	P(N<=1)	STATE I	P(N=1)	P(N<=1)	STATE I	P(N=1)	P(N<=1)
0	0.001841234	0.001841256	42	0.009162556	0.4660310	84	0.002959560	0.08914800	126	0.0009359594	0.3669476
1	0.003680660	0.009020207	43	0.008919310	0.1672903	85	0.002880990	0.1446310	127	0.0009305766	0.3458780
2	0.014151329	0.024151329	44	0.008628251	0.4816528	86	0.002806050	0.4971555	128	0.0009458718	0.3667838
3	0.020725890	0.04666127	45	0.008300886	0.00900886	87	0.002730051	0.00900886	129	0.0009501225	0.3676657
4	0.023044200	0.06786544	46	0.008022748	0.0881325	88	0.002656756	0.029531	130	0.0008586119	0.3682440
5	0.023727340	0.09161282	47	0.008006223	0.7063217	89	0.002587021	0.051402	131	0.0008356229	0.3693597
6	0.023672190	0.1152850	48	0.007796574	0.7141182	90	0.002518340	0.0707658	132	0.0008134388	0.3701731
7	0.023259570	0.1385807	49	0.007585990	0.7217078	91	0.002451483	0.0910109	133	0.0007916435	0.3709650
8	0.022786610	0.1613673	50	0.007386106	0.7290559	92	0.002386401	0.1246464	134	0.0007708217	0.3717358
9	0.022225820	0.1835961	51	0.007191963	0.7562879	93	0.002323047	0.1618194	135	0.0007501578	0.3724166
10	0.021658900	0.2052550	52	0.007001051	0.7852889	94	0.002261375	0.2078080	136	0.0007303472	0.3732166
11	0.021092530	0.2263476	53	0.006815169	0.7501041	95	0.002201340	0.2519282	137	0.0007110097	0.3740276
12	0.020536240	0.2468837	54	0.006631239	0.7567356	96	0.002142899	0.3214250	138	0.0006921687	0.3748498
13	0.019992600	0.2668764	55	0.006458111	0.7631964	97	0.002086009	0.4255110	139	0.0006737970	0.3757016
14	0.019462490	0.2863389	56	0.006286402	0.7696851	98	0.002030629	0.5755416	140	0.0006559053	0.3765495
15	0.018944000	0.3052850	57	0.006119765	0.7756029	99	0.001974720	0.7275166	141	0.0006384422	0.3774094
16	0.018443220	0.3237281	58	0.005957294	0.7811662	100	0.001924242	0.9294426	142	0.0006215416	0.3777099
17	0.017953560	0.3416818	59	0.005799141	0.7873595	101	0.001873157	0.1131158	143	0.0006050409	0.3778446
18	0.017477020	0.3591588	60	0.005651866	0.7930045	102	0.001823429	0.331592	144	0.0005889782	0.3780030
19	0.017013050	0.3761719	61	0.005519531	0.7984998	103	0.001777502	0.6149412	145	0.0005733420	0.3780769
20	0.016561590	0.3927333	62	0.005394427	0.8038492	104	0.001727789	0.936621	146	0.0005581209	0.3781515
21	0.016121720	0.4088550	63	0.005270412	0.8090564	105	0.001682205	0.1385242	147	0.0005430398	0.3800781
22	0.015683750	0.4259587	64	0.005149145	0.8141258	106	0.001637319	0.309054	148	0.0005284073	0.3812427
23	0.015277700	0.4398258	65	0.005045987	0.8198604	107	0.001593902	0.4915554	149	0.0005148095	0.3817200
24	0.014871510	0.4566973	66	0.004960355	0.8238640	108	0.001551587	0.6430370	150	0.0005015173	0.3816211
25	0.014476700	0.4749170	67	0.004876059	0.8285400	109	0.001510395	0.8466174	151	0.0004878863	0.3821111
26	0.014092270	0.4952664	68	0.004805191	0.8330920	110	0.001470297	0.9460877	152	0.0004749147	0.3825860
27	0.013718250	0.5089847	69	0.004651073	0.8375230	111	0.001431264	0.9475189	153	0.0004625064	0.3830483
28	0.013354060	0.5150567	70	0.004513639	0.8418565	112	0.001393266	0.9468122	154	0.0004503332	0.3834495
29	0.012989550	0.5237385	71	0.004389422	0.8460556	113	0.001356278	0.9460828	155	0.0004380858	0.3838194
30	0.012636440	0.5359927	72	0.004278745	0.8501229	114	0.001320272	0.9455888	156	0.0004262396	0.3841628
31	0.012318670	0.5495811	73	0.004180781	0.8541018	115	0.001284223	0.9528740	157	0.0004151593	0.3844770
32	0.011991440	0.5630224	74	0.004097306	0.8579751	116	0.001250101	0.9561251	158	0.0004044130	0.3847522
33	0.011673590	0.5719757	75	0.0040270478	0.8617456	117	0.001217887	0.9553630	159	0.0003939044	0.3850575
34	0.011361910	0.5832039	76	0.0039670579	0.8654160	118	0.001185556	0.9565285	160	0.0003834204	0.3853955
35	0.011061520	0.5944004	77	0.0039152938	0.8689669	119	0.001154000	0.9576826	161	0.0003727746	0.3856112
36	0.010767860	0.6051683	78	0.0038676904	0.8724740	120	0.001123441	0.9588060	162	0.0003621882	0.3858440
37	0.010481990	0.6154502	79	0.0038238574	0.8758528	121	0.001093616	0.9598987	163	0.0003518664	0.3860736
38	0.010203720	0.6259540	80	0.0037839567	0.8791486	122	0.001064583	0.9609663	164	0.0003418004	0.3862974
39	0.009932830	0.6367068	81	0.0037483084	0.8823554	123	0.001036320	0.9620000	165	0.0003320073	0.3865162
40	0.009668136	0.6465540	82	0.0037162188	0.8854602	124	0.001008808	0.9630094	166	0.0003225900	0.3867301
41	0.009412459	0.6558686	83	0.0036876950	0.8884920	125	0.0009820263	0.9639934	167	0.0003131700	0.3869393





STATE	PINC(1)	PINC(1)	STATE	PINC(1)	PINC(1)	STATE	PINC(1)	PINC(1)	STATE	PINC(1)	PINC(1)
168	0.0003067791	0.9986779	214	0.9500557-35	0.9967160	260	2.3976777-05	0.9993675	306	7.5344417-06	0.9997237
169	0.0003005018	0.99898784	215	6.7182407-05	0.9968012	261	2.5287167-05	0.9990727	307	7.1334403-06	0.9997110
170	0.0002926018	0.9982710	216	8.5868167-05	0.9968802	262	2.4615827-05	0.9990797	308	7.1397507-06	0.9997382
171	0.0002848338	0.9985558	217	3.2615277-05	0.9969707	263	2.3981337-05	0.9991213	309	6.9302047-06	0.9997451
172	0.0002772727	0.9988337	218	6.0222007-05	0.9970511	264	2.3226177-05	0.9991537	310	6.9302047-06	0.9997519
173	0.0002699110	0.9991029	219	7.8268493-05	0.9971294	265	2.2706907-05	0.9991674	311	6.9302047-06	0.9997585
174	0.0002627454	0.9993657	220	7.6208387-05	0.9972056	266	2.2104087-05	0.9991915	312	6.4112277-06	0.9997649
175	0.0002557700	0.9996215	221	7.6185407-05	0.9972798	267	2.1517267-05	0.9992110	313	6.2401027-06	0.9997711
176	0.0002489798	0.9998705	222	7.2215937-05	0.9973520	268	2.0946017-05	0.9992319	314	6.0753377-06	0.9997772
177	0.0002423700	0.9991128	223	7.0298737-05	0.9974223	269	2.0389947-05	0.9992523	315	5.9146677-06	0.9997831
178	0.0002359356	0.9993688	224	6.8432457-05	0.9974907	270	1.9848687-05	0.9992722	316	5.7570417-06	0.9997889
179	0.0002296719	0.99915785	225	6.6613707-05	0.9975573	271	1.9321687-05	0.9992915	317	5.6042037-06	0.9997945
180	0.0002235746	0.99916020	226	6.4847197-05	0.9976222	272	1.8808747-05	0.9993103	318	5.4554227-06	0.9997999
181	0.0002176391	0.99920197	227	6.3125637-05	0.9976853	273	1.8339397-05	0.9993286	319	5.3105917-06	0.9998053
182	0.0002118612	0.99922315	228	6.1499757-05	0.9977468	274	1.7823327-05	0.9993469	320	5.1696047-06	0.9998105
183	0.0002062366	0.99924378	229	5.9818907-05	0.9978065	275	1.7310517-05	0.9993638	321	5.0212367-06	0.9998154
184	0.0002007016	0.99926185	230	5.8230337-05	0.9978648	276	1.6889537-05	0.9993806	322	4.8876747-06	0.9998204
185	0.0001954316	0.9992840	231	5.6644427-05	0.9979215	277	1.6464117-05	0.9993971	323	4.7687117-06	0.9998251
186	0.0001901924	0.99930242	232	5.5179577-05	0.9979767	278	1.6050667-05	0.9994131	324	4.6421117-06	0.9998298
187	0.0001851928	0.9993204	233	5.3714677-05	0.9980304	279	1.5739787-05	0.9994287	325	4.5168737-06	0.9998343
188	0.0001801970	0.9993387	234	5.2288647-05	0.9980827	280	1.5466177-05	0.9994439	326	4.3989067-06	0.9998387
189	0.0001751904	0.9993561	235	5.0900497-05	0.9981336	281	1.5235657-05	0.9994586	327	4.2825217-06	0.9998429
190	0.0001703814	0.99937360	236	4.9549187-05	0.9981831	282	1.4371607-05	0.9994730	328	4.1684427-06	0.9998471
191	0.0001656762	0.99939023	237	4.8233757-05	0.9982314	283	1.3990047-05	0.9994874	329	4.0577777-06	0.9998512
192	0.0001618816	0.99940642	238	4.6933277-05	0.9982783	284	1.3618617-05	0.9995000	330	3.9500527-06	0.9998552
193	0.0001579837	0.99942217	239	4.5706727-05	0.9983240	285	1.3257107-05	0.9995139	331	3.8485187-06	0.9998590
194	0.0001534002	0.99943724	240	4.4581907-05	0.9983685	286	1.2903157-05	0.9995268	332	3.7411067-06	0.9998627
195	0.0001493277	0.99945245	241	4.3312097-05	0.9984118	287	1.2562547-05	0.9995393	333	3.6437317-06	0.9998664
196	0.0001453634	0.99946699	242	4.2162427-05	0.9984548	288	1.2222937-05	0.9995515	334	3.5469987-06	0.9998699
197	0.0001415063	0.99948114	243	4.1042927-05	0.9984950	289	1.1904387-05	0.9995635	335	3.4528827-06	0.9998733
198	0.0001377476	0.99949491	244	3.9933307-05	0.9985350	290	1.1588367-05	0.9995751	336	3.3611667-06	0.9998767
199	0.0001339007	0.99950832	245	3.8892437-05	0.9985739	291	1.1280697-05	0.9995863	337	3.2719347-06	0.9998800
200	0.0001303058	0.99952137	246	3.7860107-05	0.9986117	292	1.0981217-05	0.9995973	338	3.1850707-06	0.9998832
201	0.0001267655	0.99953408	247	3.6855007-05	0.9986486	293	1.0684647-05	0.9996080	339	3.1005137-06	0.9998863
202	0.0001232922	0.99954644	248	3.5876577-05	0.9986845	294	1.0404057-05	0.9996184	340	3.0182017-06	0.9998893
203	0.0001199686	0.99955889	249	3.4924617-05	0.9987196	295	1.0139647-05	0.9996285	341	2.9380767-06	0.9998922
204	0.0001172118	0.99957021	250	3.4000297-05	0.9987536	296	0.9887207-05	0.9996386	342	2.8600737-06	0.9998951
205	0.0001141000	0.99958162	251	3.3094067-05	0.9987864	297	0.9649377-05	0.9996480	343	2.7841667-06	0.9998979
206	0.0001110709	0.99959273	252	3.2215807-05	0.9988187	298	0.9414047-05	0.9996573	344	2.7132317-06	0.9999006
207	0.0001081222	0.99960354	253	3.1360567-05	0.9988500	299	0.9180377-05	0.9996665	345	2.6482807-06	0.9999032
208	0.0001052517	0.99961407	254	3.0527987-05	0.9988806	300	0.8955557-05	0.9996753	346	2.5882367-06	0.9999058
209	0.0001024057	0.99962431	255	2.9717537-05	0.9989103	301	0.8734647-05	0.9996839	347	2.5330357-06	0.9999083
210	0.0001007353	0.99963428	256	2.8928587-05	0.9989392	302	0.8519637-05	0.9996923	348	2.4836657-06	0.9999107
211	0.0001089697	0.99964399	257	2.8160537-05	0.9989674	303	0.8316787-05	0.9997005	349	2.4390757-06	0.9999131
212	0.0001072161	0.99965364	258	2.7412977-05	0.9989948	304	0.8125057-05	0.9997084	350	2.3961817-06	0.9999154
213	0.0001055047	0.99966264	259	2.6685217-05	0.9990215	305	0.79399737-05	0.9997162	351	2.3549577-06	0.9999176

STATE	PINC(1)	PINC(1)	STATE	PINC(1)	PINC(1)	STATE	PINC(1)	PINC(1)	STATE	PINC(1)	PINC(1)
0	0.0009027931	0.0009027951	60	0.0006156269	0.5634070	120	0.002756310	0.7955724	180	0.0001234066	0.3084728
1	0.003647834	0.004550625	61	0.0006074369	0.5644814	121	0.002719460	0.7962920	181	0.0001217668	0.3084728
2	0.007471636	0.01202226	62	0.005993556	0.5556749	122	0.002683459	0.8009755	182	0.0001201449	0.3084728
3	0.01050205	0.02252431	63	0.005913820	0.5461888	123	0.002646759	0.8062233	183	0.0001184655	0.3084728
4	0.01181727	0.03436158	64	0.005835146	0.5372239	124	0.002612534	0.8106235	184	0.0001169491	0.3084728
5	0.01232099	0.04466257	65	0.005757514	0.5279816	125	0.002577778	0.8153570	185	0.0001154133	0.3084728
6	0.01282233	0.05581490	66	0.005680823	0.5187623	126	0.002543666	0.8201135	186	0.0001138779	0.3084728
7	0.01321693	0.06713183	67	0.005603530	0.5096277	127	0.002509666	0.8248667	187	0.0001123429	0.3084728
8	0.01363866	0.07840494	68	0.005526771	0.5004985	128	0.002475625	0.8296329	188	0.0001108060	0.3084728
9	0.01406193	0.08961015	69	0.005450189	0.4913657	129	0.002441581	0.8344013	189	0.0001092691	0.3084728
10	0.01448539	0.1008265	70	0.005373650	0.4822324	130	0.002407537	0.8391707	190	0.0001077322	0.3084728
11	0.01490890	0.11198916	71	0.005312953	0.4730993	131	0.002373478	0.8439401	191	0.0001061953	0.3084728
12	0.01533237	0.1231518	72	0.005262473	0.46111955	132	0.002347092	0.8487095	192	0.0001050509	0.3084728
13	0.01575582	0.1343152	73	0.005172532	0.4516361	133	0.002315867	0.8534789	193	0.0001039391	0.3084728
14	0.01617927	0.1454786	74	0.005083718	0.4424718	134	0.002285057	0.8582483	194	0.0001028273	0.3084728
15	0.01660272	0.1566420	75	0.005003077	0.4333074	135	0.002254242	0.8630177	195	0.0001017155	0.3084728
16	0.01702617	0.1678054	76	0.004926826	0.4241431	136	0.002223430	0.8677871	196	0.0001006037	0.3084728
17	0.01744962	0.1789688	77	0.004850675	0.4149788	137	0.002192616	0.8725565	197	0.0000994919	0.3084728
18	0.01787307	0.1901322	78	0.004774524	0.4058146	138	0.002161856	0.8773259	198	0.0000983801	0.3084728
19	0.01829652	0.2012956	79	0.004698373	0.3966509	139	0.002131305	0.8820953	199	0.0000972683	0.3084728
20	0.01871997	0.2124590	80	0.004622222	0.3874872	140	0.002100854	0.8868647	200	0.0000961565	0.3084728
21	0.01914342	0.2236224	81	0.004546071	0.3783235	141	0.002070403	0.8916341	201	0.0000950447	0.3084728
22	0.01956687	0.2347858	82	0.004469920	0.3691598	142	0.002040000	0.8964035	202	0.0000939329	0.3084728
23	0.01999031	0.2459492	83	0.004393769	0.3600000	143	0.002010000	0.9011729	203	0.0000928211	0.3084728
24	0.02041376	0.2571126	84	0.004317618	0.3508357	144	0.001980000	0.9059423	204	0.0000917093	0.3084728
25	0.02083717	0.2682760	85	0.004241467	0.3416714	145	0.001950000	0.9107117	205	0.0000905975	0.3084728
26	0.02126062	0.2794394	86	0.004165316	0.3325071	146	0.001920000	0.9154811	206	0.0000894857	0.3084728
27	0.02168407	0.2906028	87	0.004089165	0.3233428	147	0.001890000	0.9202505	207	0.0000883739	0.3084728
28	0.02210552	0.3017662	88	0.004013014	0.3141785	148	0.001860000	0.9250199	208	0.0000872621	0.3084728
29	0.02252697	0.3129296	89	0.003936863	0.3050142	149	0.001830000	0.9297893	209	0.0000861503	0.3084728
30	0.02294842	0.3240930	90	0.003860712	0.2958499	150	0.001800000	0.9345587	210	0.0000850385	0.3084728
31	0.02336987	0.3352564	91	0.003784561	0.2866856	151	0.001770000	0.9393281	211	0.0000839267	0.3084728
32	0.02379132	0.3464198	92	0.003708410	0.2775213	152	0.001740000	0.9440975	212	0.0000828149	0.3084728
33	0.02421277	0.3575832	93	0.003632259	0.2683570	153	0.001710000	0.9488669	213	0.0000817031	0.3084728
34	0.02463422	0.3687466	94	0.003556108	0.2591927	154	0.001680000	0.9536363	214	0.0000805913	0.3084728
35	0.02505567	0.3799100	95	0.003479957	0.2500284	155	0.001650000	0.9584057	215	0.0000794795	0.3084728
36	0.02547712	0.3910734	96	0.003403806	0.2408641	156	0.001620000	0.9631751	216	0.0000783677	0.3084728
37	0.02589857	0.4022368	97	0.003327655	0.2316998	157	0.001590000	0.9679445	217	0.0000772559	0.3084728
38	0.02631992	0.4134002	98	0.003251504	0.2225355	158	0.001560000	0.9727139	218	0.0000761441	0.3084728
39	0.02674137	0.4245636	99	0.003175353	0.2133712	159	0.001530000	0.9774833	219	0.0000750323	0.3084728
40	0.02716282	0.4357270	100	0.003100000	0.2042069	160	0.001500000	0.9822527	220	0.0000739205	0.3084728
41	0.02758427	0.4468904	101	0.003024649	0.1950426	161	0.001470000	0.9870221	221	0.0000728087	0.3084728
42	0.02800572	0.4580538	102	0.002949298	0.1858783	162	0.001440000	0.9917915	222	0.0000716969	0.3084728
43	0.02842717	0.4692172	103	0.002873947	0.1767140	163	0.001410000	0.9965609	223	0.0000705851	0.3084728
44	0.02884862	0.4803806	104	0.002798596	0.1675497	164	0.001380000	0.1013303	224	0.0000694733	0.3084728
45	0.02927007	0.4915440	105	0.002723245	0.1583854	165	0.001350000	0.1025957	225	0.0000683615	0.3084728
46	0.02969152	0.5027074	106	0.002647894	0.1492211	166	0.001320000	0.1038611	226	0.0000672497	0.3084728
47	0.03011297	0.5138708	107	0.002572543	0.1400568	167	0.001290000	0.1051265	227	0.0000661379	0.3084728
48	0.03053442	0.5250342	108	0.002497192	0.1308925	168	0.001260000	0.1063919	228	0.0000650261	0.3084728
49	0.03095587	0.5361976	109	0.002421841	0.1217282	169	0.001230000	0.1076573	229	0.0000639143	0.3084728
50	0.03137732	0.5473610	110	0.002346490	0.1125639	170	0.001200000	0.1089227	230	0.0000628025	0.3084728
51	0.03179877	0.5585244	111	0.002271139	0.1034000	171	0.001170000	0.1101881	231	0.0000616907	0.3084728
52	0.03222022	0.5696878	112	0.002195788	0.0942357	172	0.001140000	0.1114535	232	0.0000605789	0.3084728
53	0.03264167	0.5808512	113	0.002120437	0.0850714	173	0.001110000	0.1127189	233	0.0000594671	0.3084728
54	0.03306312	0.5920146	114	0.002045086	0.0759071	174	0.001080000	0.1139843	234	0.0000583553	0.3084728
55	0.03348457	0.6031780									





STATE	PIN=1	PIN=1	STATE	PIN=1	PIN=1	STATE	PIN=1	PIN=1	STATE	PIN=1	PIN=1	STATE	PIN=1	PIN=1
240	0.0005325206	0.9590211	154	0.0001202420	0.9910981	468	2.307280*-05	0.9990662	542	5.663794*-04	0.9995709	900	0.0005325206	0.9590211
241	0.0005541702	0.9595462	355	0.0001184720	0.9912155	469	2.572594*-05	0.9990919	543	5.588665*-04	0.9995855	901	0.0005541702	0.9595462
242	0.0005579173	0.9601042	356	0.0001168517	0.9913334	470	2.538367*-05	0.9991173	544	5.514097*-04	0.9995910	902	0.0005579173	0.9601042
243	0.0005330712	0.9606349	357	0.0001152972	0.9914487	471	2.504600*-05	0.9991424	545	5.440740*-04	0.9995964	903	0.0005330712	0.9606349
244	0.0005236999	0.9611586	358	0.0001137633	0.9913425	472	2.471279*-05	0.9991671	546	5.366356*-04	0.9996016	904	0.0005236999	0.9611586
245	0.0005167329	0.9616755	359	0.0001122498	0.9916747	473	2.438602*-05	0.9991915	547	5.296939*-04	0.9996071	905	0.0005167329	0.9616755
246	0.0005090584	0.9621852	360	0.0001107365	0.9917835	474	2.405963*-05	0.9992158	548	5.226470*-04	0.9996123	906	0.0005090584	0.9621852
247	0.0005030795	0.9626885	361	0.0001092830	0.9918948	475	2.373359*-05	0.9992393	549	5.156393*-04	0.9996175	907	0.0005030795	0.9626885
248	0.0004968224	0.9631977	362	0.0001078791	0.9920026	476	2.340711*-05	0.9992627	550	5.086322*-04	0.9996226	908	0.0004968224	0.9631977
249	0.0004907790	0.9637045	363	0.0001063964	0.9921090	477	2.308063*-05	0.9992865	551	5.016251*-04	0.9996277	909	0.0004907790	0.9637045
250	0.0004847331	0.9642177	364	0.0001049792	0.9922160	478	2.275415*-05	0.9993096	552	4.946180*-04	0.9996328	910	0.0004847331	0.9642177
251	0.0004786539	0.9647345	365	0.0001035266	0.9923214	479	2.242767*-05	0.9993331	553	4.876105*-04	0.9996379	911	0.0004786539	0.9647345
252	0.0004725902	0.9651501	366	0.0001020433	0.9924268	480	2.210119*-05	0.9993565	554	4.806030*-04	0.9996430	912	0.0004725902	0.9651501
253	0.0004664310	0.9655643	367	0.0001005600	0.9925320	481	2.177471*-05	0.9993798	555	4.735955*-04	0.9996481	913	0.0004664310	0.9655643
254	0.0004602718	0.9659785	368	9.95324*-03	0.9926371	482	2.144823*-05	0.9994031	556	4.665880*-04	0.9996532	914	0.0004602718	0.9659785
255	0.0004541126	0.9663927	369	9.87950*-03	0.9927423	483	2.112175*-05	0.9994264	557	4.595805*-04	0.9996583	915	0.0004541126	0.9663927
256	0.0004479534	0.9668069	370	9.80575*-03	0.9928474	484	2.079527*-05	0.9994497	558	4.525730*-04	0.9996634	916	0.0004479534	0.9668069
257	0.0004417942	0.9672211	371	9.73200*-03	0.9929525	485	2.046879*-05	0.9994730	559	4.455655*-04	0.9996685	917	0.0004417942	0.9672211
258	0.0004356350	0.9676353	372	9.65825*-03	0.9930576	486	2.014231*-05	0.9994963	560	4.385580*-04	0.9996736	918	0.0004356350	0.9676353
259	0.0004294758	0.9680495	373	9.58450*-03	0.9931627	487	1.981583*-05	0.9995196	561	4.315505*-04	0.9996787	919	0.0004294758	0.9680495
260	0.0004233166	0.9684637	374	9.51075*-03	0.9932678	488	1.948935*-05	0.9995429	562	4.245430*-04	0.9996838	920	0.0004233166	0.9684637
261	0.0004171574	0.9688779	375	9.43700*-03	0.9933729	489	1.916287*-05	0.9995662	563	4.175355*-04	0.9996889	921	0.0004171574	0.9688779
262	0.0004110000	0.9692921	376	8.36325*-03	0.9934780	490	1.883639*-05	0.9995895	564	4.105280*-04	0.9996940	922	0.0004110000	0.9692921
263	0.0004048426	0.9697063	377	8.28950*-03	0.9935831	491	1.850991*-05	0.9996128	565	4.035205*-04	0.9996991	923	0.0004048426	0.9697063
264	0.0004000000	0.9702058	378	8.21575*-03	0.9936882	492	1.818343*-05	0.9996365	566	3.965130*-04	0.9997042	924	0.0004000000	0.9702058
265	0.0003950000	0.9706811	379	8.14200*-03	0.9937933	493	1.785695*-05	0.9996598	567	3.895055*-04	0.9997093	925	0.0003950000	0.9706811
266	0.0003900000	0.9711564	380	8.06825*-03	0.9938984	494	1.753047*-05	0.9996831	568	3.824980*-04	0.9997144	926	0.0003900000	0.9711564
267	0.0003850000	0.9716317	381	8.00000*-03	0.9940035	495	1.720399*-05	0.9997064	569	3.754905*-04	0.9997195	927	0.0003850000	0.9716317
268	0.0003800000	0.9721070	382	8.24000*-03	0.9941086	496	1.687751*-05	0.9997297	570	3.684830*-04	0.9997246	928	0.0003800000	0.9721070
269	0.0003750000	0.9725823	383	8.17175*-03	0.9942137	497	1.655103*-05	0.9997530	571	3.614755*-04	0.9997297	929	0.0003750000	0.9725823
270	0.0003700000	0.9730576	384	8.10350*-03	0.9943188	498	1.622455*-05	0.9997763	572	3.544680*-04	0.9997348	930	0.0003700000	0.9730576
271	0.0003650000	0.9735329	385	8.03525*-03	0.9944239	499	1.589807*-05	0.9997996	573	3.474605*-04	0.9997399	931	0.0003650000	0.9735329
272	0.0003600000	0.9740082	386	7.96700*-03	0.9945290	500	1.557159*-05	0.9998229	574	3.404530*-04	0.9997450	932	0.0003600000	0.9740082
273	0.0003550000	0.9744835	387	7.89875*-03	0.9946341	501	1.524511*-05	0.9998462	575	3.334455*-04	0.9997501	933	0.0003550000	0.9744835
274	0.0003500000	0.9749588	388	7.83050*-03	0.9947392	502	1.491863*-05	0.9998695	576	3.264380*-04	0.9997552	934	0.0003500000	0.9749588
275	0.0003450000	0.9754341	389	7.76225*-03	0.9948443	503	1.459215*-05	0.9998928	577	3.194305*-04	0.9997603	935	0.0003450000	0.9754341
276	0.0003400000	0.9759094	390	7.69400*-03	0.9949494	504	1.426567*-05	0.9999161	578	3.124230*-04	0.9997654	936	0.0003400000	0.9759094
277	0.0003350000	0.9763847	391	7.62575*-03	0.9950545	505	1.393919*-05	0.9999394	579	3.054155*-04	0.9997705	937	0.0003350000	0.9763847
278	0.0003300000	0.9768600	392	7.55750*-03	0.9951596	506	1.361271*-05	0.9999627	580	2.984080*-04	0.9997756	938	0.0003300000	0.9768600
279	0.0003250000	0.9773353	393	7.48925*-03	0.9952647	507	1.328623*-05	0.9999860	581	2.914005*-04	0.9997807	939	0.0003250000	0.9773353
280	0.0003200000	0.9778106	394	7.42100*-03	0.9953698	508	1.295975*-05	0.9999993	582	2.843930*-04	0.9997858	940	0.0003200000	0.9778106
281	0.0003150000	0.9782859	395	7.35275*-03	0.9954749	509	1.263327*-05	0.9999993	583	2.773855*-04	0.9997909	941	0.0003150000	0.9782859
282	0.0003100000	0.9787612	396	7.28450*-03	0.9955800	510	1.230679*-05	0.9999993	584	2.703780*-04	0.9997960	942	0.0003100000	0.9787612
283	0.0003050000	0.9792365	397	7.21625*-03	0.9956851	511	1.198031*-05	0.9999993	585	2.633705*-04	0.9998011	943	0.0003050000	0.9792365
284	0.0003000000	0.9797118	398	7.14800*-03	0.9957902	512	1.165383*-05	0.9999993	586	2.563630*-04	0.9998062	944	0.0003000000	0.9797118
285	0.0002950000	0.9801871	399	7.07975*-03	0.9958953	513	1.132735*-05	0.9999993	587	2.493555*-04	0.9998113	945	0.0002950000	0.9801871
286	0.0002900000	0.9806624	400	7.01150*-03	0.9960004	514	1.100087*-05	0.9999993	588	2.423480*-04	0.9998164	946	0.0002900000	0.9806624
287	0.0002850000	0.9811377	401	6.94325*-03	0.9961055	515	1.067439*-05	0.9999993	589	2.353405*-04	0.9998215	947	0.0002850000	0.9811377
288	0.0002800000	0.9816130	402	6.87500*-03	0.9962106	516	1.034791*-05	0.9999993	590	2.283330*-04	0.9998266	948	0.0002800000	0.9816130
289	0.0002750000	0.9820883	403	6.80675*-03	0.9963157	517	1.002143*-05	0.9999993	591	2.213255*-04	0.9998317	949	0.0002750000	0.9820883
290	0.0002700000	0.9825636	404	6.73850*-03	0.9964208	518	9.694995*-05	0.9999993	592	2.143180*-04	0.9998368	950	0.0002700000	0.9825636
291	0.0002650000	0.9830389	405	6.67025*-03	0.9965259	519	9.367747*-05	0.9999993	593	2.073105*-04	0.9998419	951	0.0002650000	0.9830389
292	0.0002600000	0.9835142	406	6.60200*-03	0.9966310	520	9.040499*-05	0.9999993	594	2.003030*-04	0.9998470	952	0.0002600000	0.9835142
293	0.0002550000	0.9839895	407	6.53375*-03	0.9967361	521	8.713251*-05	0.9999993	595	1.932955*-04	0.9998521	953	0.0002550000	0.9839895
294	0.0002500000	0.9844648	408	6.46550*-03	0.9968412	522	8.386003*-05	0.9999993	596	1.862880*-04	0.9998572	954	0.0002500000	0.9844648
295	0.0002450000	0.9849401	409	6.39725*-03	0.9969463	523	8.058755*-05	0.9999993	597	1.792805*-04	0.9998623	955	0.0002450000	0.9849401
296	0.0002400000	0.9854154	410	6.32900*-03	0.9970514	524	7.731507*-05	0.9999993	598	1.722730*-04	0.9998674	956	0.0002400000	0.9854154
297	0.0002350000	0.9858907	411	6.26075*-03	0.9971565	525	7.404259*-05	0.9999993	599	1.652655*-04	0.9998725	957	0.0002350000	0.9858907
298	0.0002300000	0.9863660	412	6.19250*-03	0.9972616	526	7.077011*-05	0.9999993	600	1.582580*-04	0.9998776	958	0.0002300000	0.9863660
299	0.0002250000	0.9868413	413	6.12425*-03	0.9973667	527	6.749763*-05	0.9999993	601	1.512505*-04	0.9998827	959	0.0002250000	0.9868413
300	0.0002200000	0.9873166	414	6.05600*-03	0.9974718	528	6.422515*-05	0.9999993	602	1.442430*-04	0.9998878	960	0.0002200000	0.9873166
301	0.0002150000	0.9877919	415	5.98775*-03	0.9975769	529	6.095267*-05	0.9999993	603	1.372355*-04	0.9998929	961	0.0002150000	0.9877919
302	0.0002100000	0.9882672	416	5.91950*-0										





$$M = 1, \quad K = 2, \quad C = 4$$

RHO	P(DELAY)	L(GIVEN K)	LQ(GIVEN K)	LQ FOR K=1	RATIO
0.10	0.0007890658	0.4000750	7.503982 <sup>-05</sup>	8.827099 <sup>-05</sup>	0.8501075
0.20	0.009465430	0.8019916	0.001991583	0.002395209	0.8314858
0.30	0.03647908	1.212938	0.01293860	0.01587846	0.8148526
0.40	0.08917582	1.648396	0.04839724	0.06046649	0.8003976
0.50	0.1710498	2.137051	0.1370512	0.1739130	0.7880446
0.55	0.2232277	2.416934	0.2169342	0.2771985	0.7825950
0.60	0.2828179	2.734802	0.3348027	0.4305648	0.7775897
0.65	0.3496612	3.108794	0.5087947	0.6582100	0.7729976
0.70	0.4235471	3.568935	0.7689363	1.000193	0.7687876
0.75	0.5042312	4.169044	1.169044	1.528301	0.7649301
0.80	0.5914467	5.016486	1.816486	2.385730	0.7613966
0.85	0.6849149	6.361470	2.961471	3.906125	0.7581607
0.90	0.7843520	8.954184	5.354183	7.089779	0.7551975
0.95	0.8894738	16.54478	12.74479	16.93695	0.7524843
0.98	0.9551587	39.09822	35.17822	46.84386	0.7509675
0.99	0.9774756	76.61588	72.65587	96.81261	0.7504795



M = 1, K = 3, C = 2, AMO = 0.10						M = 1, K = 3, C = 2, AMO = 0.05					
STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)
0	0.8180408	0.8180408	7	1.690873e-08	0.9999999	0	0.2375225	0.2075225	13	0.0002790913	0.9996783
1	0.1639184	0.7819592	8	4.077463e-10	0.9999999	1	0.2849550	0.4924775	14	0.0001494445	0.9994277
2	0.01665610	0.9986153	9	4.772313e-11	0.9999999	2	0.2136602	0.7061378	15	8.002816e-05	0.9999077
3	0.001292621	0.9999077	10	2.471911e-12	0.9999999	3	0.1312171	0.8374096	16	4.285398e-05	0.9999506
4	8.666591e-05	0.9999999	11	1.266808e-13	0.9999999	4	0.07438427	0.9117939	17	2.294772e-05	0.9999735
5	3.305364e-06	0.9999999	12	6.466497e-15	0.9999999	5	0.04074016	0.9573341	18	1.228818e-05	0.9999854
6	3.058254e-07	0.9999999	13	3.261655e-16	0.9999999	6	0.02200391	0.9745380	19	6.580156e-06	0.9999928
M = 1, K = 3, C = 2, AMO = 0.20						7	0.01181960	0.9833574	20	3.523583e-06	0.9999959
STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)
0	0.6658887	0.6658887	9	3.307070e-08	0.9999999	7	0.006339821	0.9926932	21	1.888839e-06	0.9999978
1	0.2682276	0.9361115	10	1.380626e-09	0.9999999	8	0.003393889	0.9960671	22	1.010371e-06	0.9999988
2	0.05555629	0.9896675	11	4.102552e-10	0.9999999	9	0.001817559	0.9979047	23	5.410404e-07	0.9999993
3	0.008899871	0.9985674	12	5.084866e-11	0.9999999	10	0.0009733024	0.9988779	24	2.697197e-07	0.9999996
4	0.001247878	0.9998153	13	5.846899e-12	0.9999999	11	0.0005211925	0.9993991	25	1.551409e-07	0.9999998
5	0.0001619034	0.9999772	14	6.714256e-13	0.9999999	M = 1, K = 3, C = 2, AMO = 0.70					
6	2.003048e-05	0.9999973	15	7.710504e-14	0.9999999	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)
7	2.465234e-06	0.9999996	16	8.853311e-15	0.9999999	0	0.1719688	0.1719688	14	0.0005018965	0.9992641
8	2.836945e-07	0.9999999	17	1.016493e-15	0.9999999	1	0.1725073	0.4280262	15	0.000483779	0.9994625
M = 1, K = 3, C = 2, AMO = 0.30						2	0.2095479	0.6375841	16	0.0001773883	0.9997999
STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	3	0.1413406	0.7789338	17	0.0001054542	0.9998453
0	0.5366423	0.5366423	9	1.689944e-06	0.9999999	4	0.08836424	0.8672801	18	6.249544e-05	0.9999080
1	0.26827154	0.8633577	10	3.229438e-07	0.9999999	5	0.05353770	0.9208177	19	3.727275e-05	0.9999453
2	0.1036980	0.9670557	11	6.165379e-08	0.9999999	6	0.03205127	0.9525690	20	2.215884e-05	0.9999675
3	0.02579126	0.9928470	12	1.176219e-08	0.9999999	7	0.01910057	0.9719696	21	1.317354e-05	0.9999865
4	0.005887594	0.9985346	13	2.263271e-09	0.9999999	8	0.01136427	0.9833338	22	7.831738e-06	0.9999885
5	0.001174876	0.9997095	14	4.277508e-10	0.9999999	9	0.006757721	0.9900916	23	4.656007e-06	0.9999931
6	0.0002336459	0.9999634	15	8.157224e-11	0.9999999	10	0.004017763	0.9941093	24	2.768023e-06	0.9999959
7	4.564828e-05	0.9999891	16	1.555460e-11	0.9999999	11	0.002218861	0.9964979	25	1.645602e-06	0.9999976
8	8.806992e-06	0.9999979	17	2.966033e-12	0.9999999	12	0.001420049	0.9979180	26	7.783180e-07	0.9999985
M = 1, K = 3, C = 2, AMO = 0.40						13	0.000482262	0.9987622	27	5.816152e-07	0.9999991
STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)
0	0.4255945	0.4255945	11	2.152390e-06	0.9999991	0	0.1386187	0.1386187	14	0.0006506217	0.9987595
1	0.3488114	0.7746057	12	6.134104e-07	0.9999999	1	0.2227625	0.361312	15	0.0004267793	0.9991863
2	0.1510717	0.9254774	13	1.698691e-07	0.9999999	2	0.1974651	0.5591444	16	0.0002799443	0.9994662
3	0.05194894	0.9774264	14	4.702732e-08	0.9999999	3	0.1456638	0.7052081	17	0.0001836338	0.9996496
4	0.01603621	0.9934626	15	1.302071e-08	0.9999999	4	0.1000244	0.8052324	18	0.0001204556	0.9997703
5	0.004687492	0.9981501	16	3.605120e-09	0.9999999	5	0.06668074	0.8719233	19	7.301343e-05	0.9999439
6	0.001332464	0.9996826	17	9.981720e-10	0.9999999	6	0.04399607	0.9159194	20	4.829453e-05	0.9999012
7	0.0003735137	0.9998561	18	2.763705e-10	0.9999999	7	0.02891380	0.9648332	21	3.349786e-05	0.9999352
8	0.0001399091	0.9999601	19	7.652061e-11	0.9999999	8	0.01897727	0.9838105	22	2.230109e-05	0.9999574
9	2.886022e-05	0.9999889	20	2.118479e-11	0.9999999	9	0.01458595	0.9742608	23	1.462853e-05	0.9999721
10	7.998238e-06	0.9999960	21	5.886139e-12	0.9999999	10	0.008157246	0.9846201	24	9.595673e-06	0.9999817
M = 1, K = 3, C = 2, AMO = 0.50						11	0.005357407	0.9897855	25	6.294338e-06	0.9999880
STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)
0	0.3293742	0.3293742	12	1.369066e-05	0.9999918	0	0.1073271	0.1073271	19	0.0007877918	0.9979758
1	0.3412516	0.6706257	13	5.108900e-06	0.9999970	1	0.1456638	0.2926728	20	0.0004022186	0.9989511
2	0.1895378	0.8599636	14	1.905628e-06	0.9999968	2	0.1064666	0.4720350	21	0.0002938528	0.9992449
3	0.08449066	0.9444543	15	7.108026e-07	0.9999995	3	0.07700621	0.7983965	22	0.0001522400	0.9994665
4	0.03423922	0.9786935	16	2.651307e-07	0.9999998	4	0.0561526	0.8547717	23	0.0001060095	0.9997183
5	0.01326147	0.9919550	17	9.489630e-08	0.9999999	5	0.04067052	0.9354421	24	7.890137e-05	0.9997972
6	0.005020911	0.9964939	18	3.688781e-08	0.9999999	6	0.02928923	0.9247513	25	5.679725e-05	0.9998540
7	0.001888826	0.9988777	19	1.375924e-08	0.9999999	7	0.02108629	0.9458174	26	4.088526e-05	0.9998949
8	0.0007764815	0.9995792	20	5.132297e-09	0.9999999	8	0.01597934	0.9609969	27	2.943109e-05	0.9999244
9	0.0002637920	0.9998430	21	1.916334e-09	0.9999999	9	0.01092668	0.9719238	28	2.118584e-05	0.9999455
10	8.410521e-05	0.9999414	22	7.140513e-10	0.9999999	10	0.00787894	0.9797894	29	1.525054e-05	0.9999608
11	3.671894e-05	0.9999781	23	2.663627e-10	0.9999999	11	0.005662061	0.9854515	30	1.092703e-05	0.9999717
M = 1, K = 3, C = 2, AMO = 0.55						12	0.004075810	0.9895273	31	7.024964e-06	0.9999797
STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)
0	0.2860155	0.2860155	12	1.369066e-05	0.9999918	0	0.1073271	0.1073271	19	0.0007877918	0.9979758
1	0.3279991	0.6139645	13	5.108900e-06	0.9999970	1	0.1456638	0.2926728	20	0.0004022186	0.9989511
2	0.1027228	0.8167074	14	1.905628e-06	0.9999968	2	0.1064666	0.4720350	21	0.0002938528	0.9992449
3	0.0142409	0.9181283	15	3.964362e-06	0.9999970	3	0.07700621	0.7983965	22	0.0001522400	0.9994665
4	0.04432815	0.9644564	16	1.683796e-06	0.9999987	4	0.0561526	0.8547717	23	0.0001060095	0.9997183
5	0.02030912	0.9847655	17	7.151642e-07	0.9999995	5	0.04067052	0.9354421	24	7.890137e-05	0.9997972
6	0.008740600	0.9935061	18	3.037541e-07	0.9999998	6	0.02928923	0.9247513	25	5.679725e-05	0.9998540
7	0.003731992	0.9972381	19	1.290146e-07	0.9999999	7	0.02108629	0.9458174	26	4.088526e-05	0.9998949
8	0.001588248	0.9988264	20	5.479800e-08	0.9999999	8	0.01597934	0.9609969	27	2.943109e-05	0.9999244
9	0.0006750561	0.9995014	21	2.327403e-08	0.9999999	9	0.01092668	0.9719238	28	2.118584e-05	0.9999455
10	0.0002687847	0.9997882	22	9.885262e-09	0.9999999	10	0.00787894	0.9797894	29	1.525054e-05	0.9999608
11	0.0001218151	0.9999101	23	4.198601e-09	0.9999999	11	0.005662061	0.9854515	30	1.092703e-05	0.9999717
M = 1, K = 3, C = 2, AMO = 0.60						12	0.004075810	0.9895273	31	7.024964e-06	0.9999797
STATE I	P(N=I)	P(NC=I)	STATE								





M = 1 , K = 3 , C = 2 , RHO = 0.90

STATE I	P(N=1)	P(N=1)	STATE I	P(N=1)	P(N=1)	STATE I	P(N=1)	P(N=1)	STATE I	P(N=1)	P(N=1)
0	0.05034003	0.05034003	19	0.008827068	0.9479560	38	0.0004497855	0.9973482	57	2.291751E-05	0.9990649
1	0.09931888	0.1496599	20	0.007547427	0.9405034	39	0.0003849775	0.9977738	58	1.959401E-05	0.9998864
2	0.1105736	0.2600334	21	0.006452899	0.9419593	40	0.0002870889	0.9980615	59	1.675248E-05	0.9990012
3	0.1034025	0.3636362	22	0.005517099	0.9474254	41	0.00020811078	0.9983627	60	1.432304E-05	0.9990155
4	0.09122568	0.4544619	23	0.004717007	0.9721904	42	0.0002043148	0.9985810	61	1.224991E-05	0.9990278
5	0.07880116	0.5334631	24	0.004032967	0.9742233	43	0.0002054872	0.9987885	62	1.047000E-05	0.9990382
6	0.06758775	0.6010509	25	0.003480909	0.9796714	44	0.0001756874	0.9989642	63	8.951647E-06	0.9990472
7	0.05783972	0.6588906	26	0.002948074	0.9826195	45	0.0001502092	0.9991144	64	7.653478E-06	0.9990568
8	0.04944636	0.7083549	27	0.002520521	0.9851600	46	0.0001284258	0.9992428	65	6.343570E-06	0.9990614
9	0.04229375	0.7506487	28	0.002154995	0.9872950	47	0.0001098015	0.9993526	66	5.394621E-06	0.9990670
10	0.03616005	0.7868094	29	0.001862477	0.9891753	48	9.387812E-05	0.9994465	67	4.783268E-06	0.9990717
11	0.03091689	0.8177246	30	0.001575281	0.9907128	49	8.026390E-05	0.9995267	68	4.089616E-06	0.9990759
12	0.02643333	0.8441598	31	0.001346484	0.9920596	50	6.462502E-05	0.9995956	69	3.496539E-06	0.9990794
13	0.02259996	0.8667597	32	0.001151516	0.9932111	51	5.467216E-05	0.9996554	70	2.989670E-06	0.9990824
14	0.01932251	0.8860622	33	0.0009845227	0.9941956	52	5.016351E-05	0.9997042	71	2.185275E-06	0.9990849
15	0.01652036	0.9026024	34	0.0008417470	0.9950374	53	4.288880E-05	0.9997471	72	1.595937E-06	0.9990871
16	0.01412457	0.9167272	35	0.0007196770	0.9957570	54	3.444905E-05	0.9997838	73	1.184638E-06	0.9990887
17	0.01207423	0.9288034	36	0.0006153092	0.9963723	55	3.135150E-05	0.9998151	74	1.597416E-06	0.9990905
18	0.01032493	0.9391283	37	0.0005260771	0.9968964	56	2.680673E-05	0.9998419	75	1.365758E-06	0.9990919

M = 1 , K = 3 , C = 2 , RHO = 0.95

STATE I	P(N=1)	P(N=1)	STATE I	P(N=1)	P(N=1)	STATE I	P(N=1)	P(N=1)	STATE I	P(N=1)	P(N=1)
0	0.02439670	0.02439670	36	0.005102664	0.9359164	72	0.0003235710	0.9959363	108	2.051836E-05	0.9987423
1	0.05121059	0.07560527	37	0.004726332	0.9404627	73	0.0002997068	0.9962360	109	1.900508E-05	0.9987613
2	0.06091495	0.1365202	38	0.004377753	0.9450206	74	0.0002776028	0.9965136	110	1.760309E-05	0.9987789
3	0.06140441	0.1979249	39	0.004054862	0.9490753	75	0.0002571288	0.9967707	111	1.630510E-05	0.9987952
4	0.05849447	0.2564193	40	0.003755826	0.9528311	76	0.0002381650	0.9970089	112	1.510256E-05	0.9988103
5	0.05466186	0.3110812	41	0.003478823	0.9563100	77	0.0002205997	0.9972295	113	1.398871E-05	0.9988263
6	0.05076390	0.3618650	42	0.003222250	0.9595322	78	0.0002043299	0.9974338	114	1.295701E-05	0.9988372
7	0.04670544	0.4088997	43	0.002984901	0.9625168	79	0.0001897401	0.9976231	115	1.200139E-05	0.9988493
8	0.04359276	0.4524925	44	0.002766479	0.9652813	80	0.0001753014	0.9977986	116	1.111624E-05	0.9988603
9	0.04037941	0.4928721	45	0.002560592	0.9678449	81	0.0001623727	0.9979607	117	1.029461E-05	0.9988707
10	0.03740190	0.5307740	46	0.002371742	0.9702134	82	0.0001503973	0.9981111	118	9.537024E-06	0.9988802
11	0.03466369	0.5649175	47	0.002196420	0.9724104	83	0.0001390510	0.9982505	119	8.833644E-06	0.9988890
12	0.03208845	0.5970060	48	0.002034798	0.9744452	84	0.0001290310	0.9983795	120	8.182140E-06	0.9988972
13	0.02972186	0.6267278	49	0.001884727	0.9763300	85	0.0001195144	0.9984990	121	7.578687E-06	0.9989048
14	0.02752974	0.6542575	50	0.001745723	0.9780757	86	0.0001107001	0.9986097	122	7.019738E-06	0.9989118
15	0.02549938	0.6797569	51	0.001616972	0.9796926	87	0.000102357	0.9987122	123	6.502015E-06	0.9989183
16	0.02361874	0.7037357	52	0.001497716	0.9811906	88	9.497345E-05	0.9988072	124	6.022475E-06	0.9989244
17	0.02187680	0.7252525	53	0.001387256	0.9825776	89	8.794302E-05	0.9988932	125	5.578302E-06	0.9989299
18	0.02026333	0.7455158	54	0.001286962	0.9838626	90	8.144099E-05	0.9989766	126	5.168888E-06	0.9989351
19	0.01876885	0.7642847	55	0.001190174	0.9850528	91	7.547156E-05	0.9990521	127	4.785817E-06	0.9989399
20	0.01738460	0.7816693	56	0.001102396	0.9861552	92	6.990353E-05	0.9991202	128	4.432850E-06	0.9989443
21	0.01610244	0.7977718	57	0.001021091	0.9871762	93	6.474963E-05	0.9991868	129	4.105917E-06	0.9989484
22	0.01491485	0.8126864	58	0.0009457832	0.9881220	94	5.997419E-05	0.9992468	130	3.803094E-06	0.9989522
23	0.01381444	0.8265014	59	0.0008760293	0.9890941	95	5.555093E-05	0.9993023	131	3.522607E-06	0.9989557
24	0.01279596	0.8392974	60	0.0008114199	0.9898095	96	5.145391E-05	0.9993538	132	3.262405E-06	0.9989590
25	0.01185222	0.8511496	61	0.0007515755	0.9905611	97	4.765905E-05	0.9994015	133	3.022180E-06	0.9989624
26	0.01097809	0.8621277	62	0.0006961490	0.9912572	98	4.416408E-05	0.9994456	134	2.799273E-06	0.9989658
27	0.01016843	0.8722942	63	0.000648023	0.9919820	99	4.088836E-05	0.9994866	135	2.592818E-06	0.9989687
28	0.009418486	0.8817146	64	0.0005972467	0.9926992	100	3.787271E-05	0.9995244	136	2.401592E-06	0.9989698
29	0.008723848	0.8904385	65	0.0005531982	0.9934024	101	3.507860E-05	0.9995596	137	2.224649E-06	0.9989720
30	0.008080864	0.8985189	66	0.0005123983	0.9939568	102	3.249230E-05	0.9995919	138	2.068048E-06	0.9989741
31	0.007484484	0.9060034	67	0.0004766076	0.9944036	103	3.009591E-05	0.9996220	139	1.909667E-06	0.9989760
32	0.006932486	0.9129359	68	0.0004396040	0.9947910	104	2.787626E-05	0.9996496	140	1.767495E-06	0.9989778
33	0.006421197	0.9193571	69	0.0004071821	0.9948662	105	2.582031E-05	0.9996757	141	1.637322E-06	0.9989794
34	0.005947616	0.9253067	70	0.0003771514	0.9949236	106	2.391600E-05	0.9996996	142	1.516566E-06	0.9989809
35	0.005508947	0.9308137	71	0.0003493356	0.9950127	107	2.215213E-05	0.9997218	143	1.404715E-06	0.9989824

M = 1 , K = 3 , C = 2 , RHO = 3.98

STATE	P(N=1)	P(N=1)	STATE	P(N=1)	P(N=1)	STATE	P(N=1)	P(N=1)	STATE	P(N=1)	P(N=1)
0	0.009578355	0.009578355	42	0.008656669	0.7181659	84	0.002429524	0.9209023	126	0.0006418539	0.9778010
1	0.02084328	0.03042164	43	0.008389687	0.7265666	85	0.002357123	0.9232594	127	0.0006615365	0.9784625
2	0.02579175	0.05621339	44	0.008148417	0.7347131	86	0.002286881	0.9255463	128	0.0006818227	0.9791043
3	0.02712958	0.08334201	45	0.007905591	0.7426187	87	0.002218771	0.9277651	129	0.0006922994	0.9797270
4	0.02702145	0.1036644	46	0.007670006	0.7502887	88	0.002152613	0.9299176	130	0.0006943178	0.9803311
5	0.02629446	0.1347939	47	0.007441495	0.7577301	89	0.002088465	0.9320061	131	0.0006958134	0.9809173
6	0.02570234	0.1624962	48	0.007219040	0.7654998	90	0.002026228	0.9340323	132	0.0006968677	0.9814860
7	0.02495255	0.1874487	49	0.007004533	0.7719543	91	0.001965846	0.9359482	133	0.0006975121	0.9820177
8	0.02421299	0.2116618	50	0.006795797	0.7787501	92	0.001907263	0.9379054	134	0.0006979527	0.9825729
9	0.02349237	0.2351541	51	0.006593280	0.7856364	93	0.001850427	0.9397595	135	0.0006981283	0.9830922
10	0.02279240	0.2579466	52	0.006396800	0.7917402	94	0.001795284	0.9415511	136	0.0006983052	0.9835961
11	0.02211331	0.2809099	53	0.006206173	0.7979464	95	0.001741756	0.9432930	137	0.0006984837	0.9840550
12	0.02145433	0.3015143	54	0.006021228	0.8039764	96	0.001687979	0.9449828	138	0.0006986700	0.9845492
13	0.02081499	0.3223242	55	0.005841795	0.8098094	97	0.001636920	0.9466224	139	0.0006988567	0.9850194
14	0.02019470	0.3425239	56	0.005667709	0.8154771	98	0.001590662	0.9482110	140	0.0006990426	0.9854658
15	0.01959289	0.3622168	57	0.005498808	0.8209759	99	0.001545240	0.9497563	141	0.0006992299	0.9858989
16	0.01900902	0.3811259	58	0.005334944	0.8263109	100	0.001497270	0.9512535	142	0.0006994213	0.9863191
17	0.01844255	0.3995066	59	0.005175963	0.8314868	101	0.001452652	0.9527062	143	0.0006996176	0.9867268
18	0.01789296	0.4174614	60	0.005021717	0.8365086	102	0.001409362	0.9541156	144	0.0006998142	0.9871224
19	0.01735976	0.4344211	61	0.004872069	0.8413807	103	0.001367363	0.9554829	145	0.0006999550	0.9875061
20	0.01684242	0.4516634	62	0.004726679	0.8464075	104	0.001326615	0.9568005	146	0.0006999917	0.9878784
21	0.01634051	0.4680040	63	0.004580619	0.8506995	105	0.001287078	0.9580966	147	0.0006999964	0.9882396
22	0.01585578	0.4851754	64	0.004435429	0.8549149	106	0.001247723	0.9595343	148	0.0006999922	0.9885901
23	0.01538112	0.4992387	65	0.004316762	0.8594596	107	0.001211514	0.9605569	149	0.0006999904	0.9888101
24	0.01492276	0.5141615	66	0.004218814	0.8634678	108	0.001175411	0.9617323	150	0.0006999851	0.9892600
25	0.01447907	0.5286396	67	0.004140631	0.8677111	109	0.001140396	0.9628726	151	0.0006999803	0.9895800
26	0.01404662	0.5426862	68	0.004074229	0.8716533	110	0.001106400	0.9639791	152	0.0006999742	0.9898906
27	0.01362802	0.5563142	69	0.004018274	0.8756781	111	0.001073429	0.9650525	153	0.0006999678	0.9901918
28	0.01322191	0.5695361	70	0.003971073	0.8798188	112	0.001041441	0.9660909	154	0.0006999609	0.9904841
29	0.01282789	0.5823640	71	0.003934001	0.8827898	113	0.001010406	0.9671063	155	0.0006999536	0.9907677
30	0.01244622	0.5948097	72	0.003902905	0.8858280	114	0.000981955	0.9681048	156	0.0006999459	0.9910429
31	0.01207476	0.6068884	73	0.003876360	0.8889708	115	0.0009551082	0.9690957	157	0.0006999375	0.9913098
32	0.01171491	0.6185493	74	0.003854929	0.8922956	116	0.0009292740	0.9699984	158	0.0006999285	0.9915647
33	0.01136500	0.6299651	75	0.003838993	0.8958164	117	0.0009045222	0.9708537	159	0.0006999189	0.9918200
34	0.01102710	0.6409922	76	0.003828473	0.8992432	118	0.0008806518	0.9717222	160	0.0006999087	0.9920618
35	0.01069849	0.6516907	77	0.003823026	0.9022548	119	0.0008582605	0.9725649	161	0.0006998979	0.9923002
36	0.01037967	0.6620704	78	0.003821309	0.9051589	120	0.0008371565	0.9733825	162	0.0006998864	0.9925297
37	0.01007076	0.6721110	79	0.003822820	0.9079852	121	0.00081752049	0.9741757	163	0.0006998743	0.9927523
38	0.00977059	0.6816407	80	0.0038274056	0.9107722	122	0.00079956572	0.9749452	164	0.0006998616	0.9929683
39	0.009479102	0.6913901	81	0.003834362	0.9135974	123	0.0007831359	0.9756919	165	0.0006998483	0.9931774
40	0.009196624	0.7005867	82	0.003842801	0.9164987	124	0.0007672484	0.9764131	166	0.0006998344	0.9933811
41	0.008925262	0.7095093	83	0.0038520416	0.9194728	125	0.0007522797	0.9771191	167	0.0006998199	0.9935784





STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)	STATE I	P(N=I)	P(NC=I)
168	0.0001913646	0.9937698	214	0.758571*-05	0.9996508	290	1.183291*-05	0.9996167	306	2.742436*-06	0.9996042
169	0.0001856919	0.9939554	215	0.687895*-05	0.9996498	291	1.146229*-05	0.9996262	307	2.854763*-06	0.9996070
170	0.0001808291	0.9941356	216	0.617916*-05	0.9996541	292	1.113617*-05	0.9996376	308	2.769670*-06	0.9996099
1											





STATE	P(=1)	P(=1)	STATE	P(=1)	P(=1)	STATE	P(=1)	P(=1)	STATE	P(=1)	P(=1)
240	0.0000493340	0.9730291	354	7.350557E-05	0.9991567	468	1.119965E-05	0.9991302	582	2.370309E-06	0.9990438
241	0.0000492145	0.9730324	355	7.240663E-05	0.9992291	469	1.300232E-05	0.9992322	583	2.336872E-06	0.9990461
242	0.00003971865	0.9738295	356	7.132618E-05	0.9993005	470	1.260793E-05	0.9991561	584	2.299966E-06	0.9990486
243	0.00003912484	0.9742208	357	7.025788E-05	0.9993707	471	1.216164E-05	0.9991581	585	2.265591E-06	0.9990507
244	0.00003853992	0.9746062	358	6.920753E-05	0.9994399	472	1.242786E-05	0.9991811	586	2.231711E-06	0.9990529
245	0.00003796376	0.9749958	359	6.817287E-05	0.9995081	473	1.224204E-05	0.9991834	587	2.198367E-06	0.9990551
246	0.00003739619	0.9753598	360	6.715368E-05	0.9995752	474	1.205902E-05	0.9992054	588	2.165461E-06	0.9990573
247	0.00003683711	0.9757262	361	6.614973E-05	0.9996464	475	1.187874E-05	0.9992273	589	2.133108E-06	0.9990594
248	0.00003628640	0.9760910	362	6.516080E-05	0.9997066	476	1.170115E-05	0.9992290	590	2.101217E-06	0.9990615
249	0.00003573093	0.9764685	363	6.418666E-05	0.9997678	477	1.152622E-05	0.9992307	591	2.069568E-06	0.9990636
250	0.00003517956	0.9768490	364	6.322705E-05	0.9998300	478	1.135390E-05	0.9992518	592	2.038661E-06	0.9990657
251	0.0000346317	0.9771474	365	6.228180E-05	0.9998943	479	1.118416E-05	0.9992630	593	2.008380E-06	0.9990676
252	0.00003408444	0.9774491	366	6.135069E-05	0.9999576	480	1.101694E-05	0.9992741	594	1.978355E-06	0.9990696
253	0.00003353900	0.9777256	367	6.043349E-05	0.9999601	481	1.085225E-05	0.9992849	595	1.948778E-06	0.9990716
254	0.00003300575	0.9780171	368	5.953001E-05	0.9999775	482	1.069003E-05	0.9992956	596	1.919644E-06	0.9990735
255	0.00003248515	0.9783164	369	5.864004E-05	0.9999913	483	1.053020E-05	0.9993061	597	1.890945E-06	0.9990754
256	0.00003196697	0.9786205	370	5.776336E-05	0.9999999	484	1.037277E-05	0.9993165	598	1.862675E-06	0.9990772
257	0.00003144606	0.9789222	371	5.689981E-05	0.9999999	485	1.021770E-05	0.9993267	599	1.834628E-06	0.9990791
258	0.00003093127	0.9792343	372	5.604915E-05	0.9999999	486	1.006494E-05	0.9993368	600	1.807348E-06	0.9990809
259	0.00003042573	0.9795478	373	5.521122E-05	0.9999999	487	9.914475E-06	0.9993467	601	1.780377E-06	0.9990826
260	0.00003000007	0.9798617	374	5.438960E-05	0.9999999	488	9.764252E-06	0.9993564	602	1.753760E-06	0.9990843
261	0.00002958331	0.9801829	375	5.357273E-05	0.9999999	489	9.620267E-06	0.9993661	603	1.727562E-06	0.9990862
262	0.00002918730	0.9805068	376	5.277182E-05	0.9999999	490	9.476424E-06	0.9993756	604	1.701715E-06	0.9990881
263	0.00002880979	0.9808263	377	5.198289E-05	0.9999999	491	9.334752E-06	0.9993849	605	1.676274E-06	0.9990899
264	0.00002845191	0.9811214	378	5.120574E-05	0.9999999	492	9.195196E-06	0.9993941	606	1.651214E-06	0.9990912
265	0.00002808888	0.9814925	379	5.044021E-05	0.9999999	493	9.057728E-06	0.9994032	607	1.626528E-06	0.9990928
266	0.00002766894	0.9818490	380	4.968633E-05	0.9999999	494	8.922315E-06	0.9994121	608	1.602211E-06	0.9990944
267	0.00002725259	0.9821916	381	4.894332E-05	0.9999999	495	8.788926E-06	0.9994209	609	1.578258E-06	0.9990960
268	0.00002684784	0.9825301	382	4.821362E-05	0.9999999	496	8.657531E-06	0.9994295	610	1.554663E-06	0.9990975
269	0.00002644444	0.9828745	383	4.749086E-05	0.9999999	497	8.528101E-06	0.9994380	611	1.531421E-06	0.9990991
270	0.00002605107	0.9832151	384	4.678086E-05	0.9999999	498	8.400686E-06	0.9994464	612	1.508528E-06	0.9991006
271	0.00002567178	0.9835517	385	4.608317E-05	0.9999999	499	8.274817E-06	0.9994547	613	1.485975E-06	0.9991021
272	0.00002532778	0.9838344	386	4.539256E-05	0.9999999	500	8.151330E-06	0.9994629	614	1.463758E-06	0.9991035
273	0.00002500007	0.9841354	387	4.471595E-05	0.9999999	501	8.029443E-06	0.9994709	615	1.441875E-06	0.9991050
274	0.00002468278	0.9843837	388	4.404544E-05	0.9999999	502	7.909462E-06	0.9994788	616	1.420319E-06	0.9991064
275	0.00002438113	0.9846003	389	4.338699E-05	0.9999999	503	7.791156E-06	0.9994866	617	1.399085E-06	0.9991078
276	0.00002409992	0.9848313	390	4.273835E-05	0.9999999	504	7.674678E-06	0.9994943	618	1.378169E-06	0.9991092
277	0.00002384411	0.9850527	391	4.209962E-05	0.9999999	505	7.559942E-06	0.9995018	619	1.357565E-06	0.9991105
278	0.00002360362	0.9852737	392	4.147003E-05	0.9999999	506	7.446421E-06	0.9995093	620	1.337289E-06	0.9991118
279	0.00002337437	0.9854912	393	4.085005E-05	0.9999999	507	7.335590E-06	0.9995166	621	1.317278E-06	0.9991132
280	0.00002314828	0.9857053	394	4.023939E-05	0.9999999	508	7.225922E-06	0.9995239	622	1.297584E-06	0.9991145
281	0.00002292732	0.9859160	395	3.963774E-05	0.9999999	509	7.117447E-06	0.9995312	623	1.278137E-06	0.9991158
282	0.00002271094	0.9861234	396	3.904518E-05	0.9999999	510	7.011482E-06	0.9995384	624	1.259007E-06	0.9991170
283	0.00002250022	0.9863276	397	3.846145E-05	0.9999999	511	6.906466E-06	0.9995456	625	1.240253E-06	0.9991182
284	0.00002229481	0.9865386	398	3.788655E-05	0.9999999	512	6.803405E-06	0.9995527	626	1.221711E-06	0.9991193
285	0.00002209426	0.9867464	399	3.732005E-05	0.9999999	513	6.701694E-06	0.9995598	627	1.203446E-06	0.9991207
286	0.00002189810	0.9869511	400	3.676211E-05	0.9999999	514	6.601504E-06	0.9995669	628	1.185455E-06	0.9991219
287	0.00002170658	0.9871528	401	3.621251E-05	0.9999999	515	6.502811E-06	0.9995739	629	1.167732E-06	0.9991231
288	0.00002151964	0.9873514	402	3.567114E-05	0.9999999	516	6.405594E-06	0.9995809	630	1.150276E-06	0.9991242
289	0.00002133739	0.9875471	403	3.513785E-05	0.9999999	517	6.309830E-06	0.9995878	631	1.133079E-06	0.9991253
290	0.00002115986	0.9877409	404	3.461255E-05	0.9999999	518	6.215498E-06	0.9995946	632	1.116138E-06	0.9991264
291	0.00002098670	0.9879327	405	3.409308E-05	0.9999999	519	6.122576E-06	0.9996013	633	1.099523E-06	0.9991275
292	0.00002081854	0.9881225	406	3.357837E-05	0.9999999	520	6.031081E-06	0.9996079	634	1.083197E-06	0.9991286
293	0.00002065434	0.9883102	407	3.306832E-05	0.9999999	521	5.940879E-06	0.9996144	635	1.067082E-06	0.9991297
294	0.00002049407	0.9884959	408	3.256286E-05	0.9999999	522	5.852063E-06	0.9996208	636	1.051087E-06	0.9991307
295	0.00002033772	0.9886797	409	3.206191E-05	0.9999999	523	5.764575E-06	0.9996271	637	1.035315E-06	0.9991318
296	0.00002018539	0.9888616	410	3.156545E-05	0.9999999	524	5.678394E-06	0.9996333	638	1.019699E-06	0.9991328
297	0.00002003699	0.9890416	411	3.107340E-05	0.9999999	525	5.593502E-06	0.9996394	639	1.004246E-06	0.9991338
298	0.00001989254	0.9892197	412	3.058573E-05	0.9999999	526	5.509879E-06	0.9996454	640	9.892684E-07	0.9991348
299	0.00001975209	0.9894000	413	3.010242E-05	0.9999999	527	5.427506E-06	0.9996514	641	9.746366E-07	0.9991357
300	0.00001961559	0.9895825	414	2.963275E-05	0.9999999	528	5.346365E-06	0.9996574	642	9.600063E-07	0.9991367
301	0.00001948312	0.9897671	415	2.916740E-05	0.9999999	529	5.266463E-06	0.9996633	643	9.453712E-07	0.9991377
302	0.00001935477	0.9899536	416	2.871545E-05	0.9999999	530	5.187703E-06	0.9996692	644	9.315743E-07	0.9991386
303	0.00001923040	0.9901416	417	2.827671E-05	0.9999999	531	5.110147E-06	0.9996750	645	9.176672E-07	0.9991395
304	0.00001910991	0.9903309	418	2.785119E-05	0.9999999	532	5.033313E-06	0.9996808	646	9.036502E-07	0.9991404
305	0.00001899328	0.9905214	419	2.743871E-05	0.9999999	533	4.958095E-06	0.9996866	647	8.895284E-07	0.9991413
306	0.00001888044	0.9907134	420	2.703918E-05	0.9999999	534	4.883366E-06	0.9996924	648	8.753029E-07	0.9991422
307	0.00001877144	0.9909069	421	2.665240E-05	0.9999999	535	4.809134E-06	0.9996981	649	8.609799E-07	0.9991431
308	0.00001866735	0.9911019	422	2.627840E-05	0.9999999	536	4.735493E-06	0.9997038	650	8.465579E-07	0.9991440
309	0.00001856715	0.9912984	423	2.591620E-05	0.9999999	537	4.662360E-06	0.9997094	651	8.320349E-07	0.9991449
310	0.00001847011	0.9914964	424	2.556576E-05	0.9999999	538	4.589765E-06	0.9997150	652	8.175129E-07	0.9991458
311	0.00001837611	0.9916959	425	2.522650E-05	0.9999999	539	4.517701E-06	0.9997205	653	8.030919E-07	0.9991467
312	0.00001828511	0.9918968	426	2.489837E-05	0.9999999	540	4.446228E-06	0.9997260	654	7.886719E-07	0.9991476
313	0.00001819611	0.9920991	427	2.458037E-05	0.9999999	541	4.375357E-06	0.9997315	655	7.742519E-07	0.9991485
314	0.00001810911	0.9923028	428	2.427240E-05	0.9999999	542	4.305094E-06	0.9997369	656	7.598319E-07	0.9991494
315	0.00001802411	0.9925078									



M = 1 , K = 3 , C = 2

RHO	P(DELAY)	L(GIVEN K)	LQ(GIVEN K)	LQ FOR K=1	RATIO
0.10	0.01804079	0.2014829	0.001482943	0.002020202	0.7340567
0.20	0.06588864	0.4119754	0.01197546	0.01666667	0.7185276
0.30	0.1366422	0.6419231	0.04192314	0.05934066	0.7064825
0.40	0.2255942	0.9062001	0.1062000	0.1523809	0.6969380
0.50	0.3293742	1.229748	0.2297481	0.3333333	0.6892443
0.55	0.3860154	1.427238	0.3272382	0.4770609	0.6859464
0.60 0.44	0.4454731	1.660995	0.4609948	0.6750000	0.6829553
0.65	0.5075224	1.946959	0.6469595	0.9510822	0.6802351
0.70	0.5719638	2.311646	0.9116471	1.345098	0.6777551
0.75	0.6386187	2.802729	1.302729	1.928571	0.6754889
0.80 0.70	0.7073271	3.515489	1.915488	2.844444	0.6734140
0.85	0.7779445	4.672190	2.972189	4.426126	0.6715104
0.90 0.85	0.8503400	6.939534	5.139534	7.673684	0.6697610
0.95	0.9243947	13.65088	11.75088	17.58717	0.6681508
0.98	0.9695783	33.67751	31.71750	47.53494	0.6672460
0.99	0.9847597	67.01967	65.03967	97.51749	0.6669540





M = 1, K = 3, C = 3, RHO = 0.10						M = 1, K = 3, C = 3, RHO = 0.05					
STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)
0	0.7407078	0.7407078	7	0.029406*-08	0.9999999	0	0.1163606	0.1163606	13	0.000429773	0.9996893
1	0.02222509	0.9829588	8	0.129851*-09	0.9999999	1	0.2319256	0.3402883	14	0.002372110	0.9972265
2	0.03337662	0.9943356	9	2.681675*-10	0.9999999	2	0.2370667	0.5853350	15	0.0001270233	0.9998536
3	0.003369791	0.9997032	10	1.799900*-11	0.9999999	3	0.1716465	0.7573215	16	0.001915*-05	0.9999216
4	0.000275630	0.9999788	11	7.987994*-13	0.9999999	4	0.1068553	0.8661769	17	3.642328*-05	0.9999580
5	1.979417*-05	0.9999986	12	6.240000*-14	0.9999999	5	0.06153982	0.9257168	18	1.350415*-05	0.9999775
6	1.301399*-06	0.9999999	13	2.219887*-15	0.9999999	6	0.03411946	0.9598362	19	1.044620*-05	0.9999880
M = 1, K = 3, C = 3, RHO = 0.20						7	0.01856557	0.9784018	20	5.592725*-06	0.9999935
STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)	8	0.01001227	0.9884160	21	2.794827*-06	0.9999965
0	0.5676370	0.5676370	9	1.356420*-07	0.9999999	9	0.005377494	0.9937916	22	1.603688*-06	0.9999981
1	0.3209716	0.8766084	10	1.620132*-08	0.9999999	10	0.002883033	0.9966764	23	8.587535*-07	0.9999990
2	0.09916589	0.9757546	11	1.909547*-09	0.9999999	11	0.001544525	0.9982191	24	6.595800*-07	0.9999995
3	0.02027492	0.9960293	12	2.230257*-10	0.9999999	12	0.0008272026	0.9993443	25	2.462638*-07	0.9999997
4	0.003369545	0.9994189	13	2.588716*-11	0.9999999	M = 1, K = 3, C = 3, RHO = 0.70					
5	0.0005021584	0.9999210	14	2.992350*-12	0.9999999	STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)
6	6.875805*-05	0.9999898	15	3.449565*-13	0.9999999	0	0.09280133	0.09280133	14	0.0007385912	0.9989171
7	8.921580*-06	0.9999987	16	3.969791*-14	0.9999999	1	0.1999699	0.2927704	15	0.0004390986	0.9993562
8	1.114858*-06	0.9999998	17	4.563610*-15	0.9999999	2	0.2216579	0.5144283	16	0.0002610666	0.9996172
M = 1, K = 3, C = 3, RHO = 0.30						3	0.1752596	0.6868678	17	0.0001551922	0.9997726
STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1) <td>4</td> <td>0.1193164</td> <td>0.8090043</td> <td>18</td> <td>9.226252*-05</td> <td>0.9998667</td>	4	0.1193164	0.8090043	18	9.226252*-05	0.9998667
0	0.4025409	0.4025409	9	5.285837*-06	0.9999987	5	0.07562558	0.8844297	19	5.485052*-05	0.9999145
1	0.3635326	0.7660736	10	1.025282*-06	0.9999997	6	0.04632000	0.9309117	20	3.268889*-05	0.9999521
2	0.1633184	0.9313854	11	1.976622*-07	0.9999999	7	0.02788703	0.9588187	21	1.938615*-05	0.9999716
3	0.05149697	0.9828824	12	3.785649*-08	0.9999999	8	0.01667042	0.9754891	22	1.152516*-05	0.9999831
4	0.01324486	0.9961272	13	7.239930*-09	0.9999999	9	0.009932667	0.9854218	23	6.851769*-06	0.9999899
5	0.003049197	0.9991764	14	1.820022*-09	0.9999999	10	0.005910035	0.991319	24	4.073410*-06	0.9999935
6	0.000453270	0.9998317	15	2.388259*-10	0.9999999	11	0.003514420	0.9948465	25	2.421663*-06	0.9999964
7	0.0001347681	0.9999645	16	5.032232*-11	0.9999999	12	0.002089760	0.9969611	26	1.439690*-06	0.9999979
8	2.693605*-05	0.9999936	17	9.596625*-12	0.9999999	13	0.001262396	0.9981785	27	8.559035*-07	0.9999987
M = 1, K = 3, C = 3, RHO = 0.40						M = 1, K = 3, C = 3, RHO = 0.75					
STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1) <td>STATE I</td> <th>P(N=1)</th> <th>P(N&lt;1)</th> <td>STATE I</td> <th>P(N=1)</th> <th>P(N&lt;1)</th>	STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)
0	0.2924125	0.2924125	11	5.564721*-06	0.9999979	0	0.07204592	0.07204592	16	0.0008911439	0.9983009
1	0.3533784	0.6457909	12	1.543600*-06	0.9999997	1	0.1670242	0.2390701	17	0.0005845509	0.9988855
2	0.2160054	0.8617964	13	4.277437*-07	0.9999999	2	0.1998138	0.4368839	18	0.0003836395	0.9992689
3	0.09134805	0.9531445	14	1.847277*-07	0.9999999	3	0.1713822	0.6102462	19	0.0002511193	0.9995204
4	0.03222710	0.9853716	15	3.280621*-08	0.9999999	4	0.1272161	0.7374824	20	0.0001649656	0.9996854
5	0.01028263	0.9956540	16	9.083504*-09	0.9999999	5	0.08829230	0.8257747	21	0.0001008223	0.9997936
6	0.003092895	0.9987469	17	2.514493*-09	0.9999999	6	0.05937888	0.8851536	22	7.049873*-05	0.9998646
7	0.000481489	0.9996451	18	6.363328*-10	0.9999999	7	0.03936435	0.9245179	23	4.456613*-05	0.9999112
8	0.0002554189	0.9999005	19	1.927956*-10	0.9999999	8	0.02593228	0.9504502	24	3.054533*-05	0.9999471
9	7.175747*-05	0.9999722	20	5.338018*-11	0.9999999	9	0.01703862	0.9674888	25	2.003639*-05	0.9999618
10	2.002070*-05	0.9999923	21	1.677964*-11	0.9999999	10	0.0118336	0.9786722	26	1.314299*-05	0.9999749
M = 1, K = 3, C = 3, RHO = 0.50						11	0.007337313	0.9860095	27	8.621224*-06	0.9999835
STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1) <td>12</td> <td>0.004613269</td> <td>0.9908288</td> <td>28</td> <td>5.655143*-06</td> <td>0.9999892</td>	12	0.004613269	0.9908288	28	5.655143*-06	0.9999892
0	0.2080983	0.2080983	12	2.408712*-05	0.9999983	13	0.003173449	0.9939801	29	3.709524*-06	0.9999929
1	0.3159266	0.5240249	13	0.407922*-05	0.9999997	14	0.002071089	0.9960513	30	2.433285*-06	0.9999984
2	0.2438517	0.7678767	14	3.909101*-06	0.9999991	15	0.001358543	0.9974098	31	1.596128*-06	0.9999989
3	0.1315413	0.8994180	15	1.581311*-06	0.9999996	M = 1, K = 3, C = 3, RHO = 0.80					
4	0.05982550	0.9592435	16	5.438855*-07	0.9999996	STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)
5	0.02485888	0.9841024	17	2.028693*-07	0.9999998	0	0.05375800	0.05375800	19	0.0010077718	0.9974107
6	0.009827211	0.9939296	18	7.567030*-08	0.9999999	1	0.1335216	0.1872795	20	0.0007256416	0.9981361
7	0.003779160	0.9977087	19	2.822509*-08	0.9999999	2	0.1718828	0.3586764	21	0.0005221772	0.9986582
8	0.001431672	0.9991404	20	1.052800*-08	0.9999999	3	0.1595756	0.5180300	22	0.0003758871	0.9990362
9	0.000538058	0.9996785	21	3.926964*-09	0.9999999	4	0.1228012	0.6462392	23	0.0002705866	0.9993047
10	0.0002014225	0.9998799	22	1.464767*-09	0.9999999	5	0.09699649	0.7432358	24	0.0001947764	0.9994995
11	7.252024*-05	0.9999952	23	5.663612*-10	0.9999999	6	0.07131827	0.8145540	25	0.0001402090	0.9996397
M = 1, K = 3, C = 3, RHO = 0.55						7	0.05178361	0.8663377	26	0.0001009288	0.9997407
STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1) <td>8</td> <td>0.03740163</td> <td>0.9037393</td> <td>27</td> <td>7.263523*-05</td> <td>0.9998133</td>	8	0.03740163	0.9037393	27	7.263523*-05	0.9998133
0	0.1735161	0.1735161	12	9.686421*-05	0.9999286	9	0.02695687	0.9306962	28	5.229912*-05	0.9998656
1	0.2906327	0.4661488	13	4.116737*-05	0.9999696	10	0.01941323	0.9501094	29	3.764730*-05	0.9999033
2	0.2481862	0.7123551	14	1.747760*-05	0.9999871	11	0.01397653	0.9640859	30	2.710025*-05	0.9999303
3	0.1468751	0.8612102	15	7.423295*-06	0.9999956	12	0.01006138	0.9741673	31	1.950801*-05	0.9999649
4	0.07569391	0.9349061	16	3.192913*-06	0.9999976	13	0.007242717	0.9813901	32	1.404275*-05	0.9999839
5	0.03553582	0.9722399	17	1.339142*-06	0.9999990	14	0.005213652	0.986003			





STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1
0	0.02365859	0.02365859	19	0.009935450	0.9616245	38	0.0005062320	0.9970159	57	2.579359*-05	0.9998479
1	0.06617475	0.08963335	20	0.008494608	0.9499192	39	0.0004328182	0.9974483	58	2.205301*-35	0.9998888
2	0.09727460	0.1869080	21	0.007262718	0.9571819	40	0.0003700500	0.9978183	59	1.895487*-05	0.9999004
3	0.1040828	0.2909908	22	0.006209478	0.9663314	41	0.0003153861	0.9981347	60	1.612056*-35	0.9999187
4	0.07981033	0.3888012	23	0.005308978	0.9687003	42	0.0002705036	0.9984052	61	1.378274*-05	0.9999305
5	0.08694559	0.4757468	24	0.004539009	0.9732394	43	0.0002312753	0.9986365	62	1.178394*-05	0.9999406
6	0.07568966	0.5512365	25	0.003808015	0.9771203	44	0.0001977357	0.9988362	63	1.007505*-05	0.9999525
7	0.06681761	0.6161543	26	0.0031318019	0.9804383	45	0.0001640600	0.9990032	64	8.613968*-06	0.9999629
8	0.05561915	0.6717734	27	0.002836440	0.9832751	46	0.0001445429	0.9991478	65	7.364770*-06	0.9999728
9	0.04758704	0.7193464	28	0.002425461	0.9857005	47	0.0001235813	0.9992714	66	6.296730*-06	0.9999802
10	0.04069528	0.7600597	29	0.002073703	0.9877743	48	0.0001056595	0.9993771	67	5.383577*-06	0.9999888
11	0.03479605	0.7944510	30	0.001772974	0.9895473	49	9.033679*-09	0.9994676	68	4.602851*-06	0.9999929
12	0.02975048	0.8246022	31	0.001515857	0.9910631	50	7.723614*-05	0.9995446	69	3.935364*-06	0.9999978
13	0.02534618	0.8500384	32	0.001296028	0.9923591	51	6.605353*-05	0.9996171	70	3.246644*-06	0.9999982
14	0.02174744	0.8717899	33	0.001108078	0.9934672	52	5.645810*-05	0.9996817	71	2.476700*-06	0.9999983
15	0.01859367	0.8903795	34	0.0009473862	0.9946146	53	4.821212*-05	0.9997156	72	2.459520*-06	0.9999985
16	0.01589717	0.9082747	35	0.0008099663	0.9952246	54	4.127092*-05	0.9997566	73	2.102641*-06	0.9999987
17	0.01359176	0.9196466	36	0.0006925289	0.9959171	55	3.528580*-05	0.9997919	74	1.797884*-06	0.9999989
18	0.01162048	0.9314491	37	0.0005920983	0.9965092	56	3.016845*-05	0.9998221	75	1.531757*-06	0.9999990

STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1
0	0.01097397	0.01097397	36	0.005407465	0.9320887	72	0.0003428978	0.9956936	108	2.174391*-35	0.9997269
1	0.03284317	0.24381713	37	0.005008630	0.9378973	73	0.0003176082	0.9968112	109	2.014023*-35	0.9997470
2	0.05139176	0.09520888	38	0.004629231	0.9417365	74	0.0002941835	0.9976303	110	1.869466*-35	0.9997657
3	0.05882660	0.1546354	39	0.004297078	0.9460334	75	0.0002724871	0.9983779	111	1.727900*-35	0.9997810
4	0.05961709	0.2134325	40	0.003980156	0.9508138	76	0.0002523300	0.9989302	112	1.600463*-35	0.9997990
5	0.05364614	0.2704186	41	0.003684610	0.9557004	77	0.0002337760	0.9997064	113	1.482425*-35	0.9998138
6	0.05366324	0.3238019	42	0.003414714	0.9571151	78	0.0002165344	0.9997205	114	1.373092*-35	0.9998275
7	0.04975725	0.3736392	43	0.003162870	0.9602780	79	0.0002005644	0.9997481	115	1.271823*-35	0.9998403
8	0.04616360	0.4198028	44	0.002929600	0.9632075	80	0.0001857723	0.9997669	116	1.178023*-35	0.9998552
9	0.04278205	0.4625849	45	0.002713535	0.9659211	81	0.0001720711	0.9997839	117	1.091401*-35	0.9998629
10	0.03961342	0.5022182	46	0.002513404	0.9686354	82	0.0001593804	0.9997994	118	1.010666*-35	0.9998730
11	0.03671214	0.5389304	47	0.002328034	0.9707624	83	0.0001476257	0.9998149	119	9.361273*-06	0.9998824
12	0.03400494	0.5729353	48	0.002156336	0.9729189	84	0.0001367379	0.9998287	120	8.670854*-06	0.9998911
13	0.03149710	0.6046325	49	0.001997300	0.9749162	85	0.0001264532	0.9998403	121	8.031357*-06	0.9999009
14	0.02917412	0.6336066	50	0.001846995	0.9767662	86	0.0001173122	0.9998527	122	7.439024*-06	0.9999085
15	0.02702245	0.6606290	51	0.001713553	0.9784787	87	0.0001086401	0.9998636	123	6.890376*-06	0.9999135
16	0.02502948	0.6855585	52	0.001587174	0.9800449	88	0.0001004441	0.9998730	124	6.438219*-06	0.9999198
17	0.02318349	0.7088820	53	0.001470114	0.9815370	89	9.322325*-05	0.9998822	125	5.911490*-06	0.9999257
18	0.02147365	0.7303154	54	0.001361691	0.9829847	90	8.636779*-05	0.9998916	126	5.475503*-06	0.9999312
19	0.01989991	0.7502054	55	0.001261263	0.9841599	91	7.997942*-05	0.9999055	127	5.071671*-06	0.9999363
20	0.01842298	0.7666225	56	0.001168241	0.9853582	92	7.408073*-05	0.9999166	128	4.697622*-06	0.9999410
21	0.01706423	0.7856928	57	0.001082080	0.9864103	93	6.861170*-05	0.9999302	129	4.351160*-06	0.9999453
22	0.01580570	0.8014985	58	0.001002274	0.9874124	94	6.355461*-05	0.9999410	130	4.030251*-06	0.9999493
23	0.01463999	0.8161384	59	0.0009283540	0.9883409	95	5.888986*-05	0.9999567	131	3.733009*-06	0.9999531
24	0.01356025	0.8294987	60	0.0008588855	0.9892028	96	5.452722*-05	0.9999713	132	3.457691*-06	0.9999565
25	0.01259015	0.8422589	61	0.0007896666	0.9899973	97	5.050507*-05	0.9999867	133	3.202674*-06	0.9999598
26	0.01163381	0.8538927	62	0.0007373508	0.9907350	98	4.780777*-05	0.9999915	134	2.964472*-06	0.9999627
27	0.01077579	0.8646885	63	0.0006833180	0.9914183	99	4.533057*-05	0.9999953	135	2.747664*-06	0.9999655
28	0.009981044	0.8744495	64	0.0006329198	0.9920512	100	4.313482*-05	0.9999959	136	2.545037*-06	0.9999680
29	0.009244915	0.8838964	65	0.0005842403	0.9926375	101	3.717479*-05	0.9999531	137	2.357353*-06	0.9999704
30	0.008563079	0.8924575	66	0.0005400037	0.9931805	102	3.443305*-05	0.9999565	138	2.183457*-06	0.9999725
31	0.007931530	0.9003890	67	0.0005029556	0.9938434	103	3.189352*-05	0.9999594	139	2.022438*-06	0.9999745
32	0.007346559	0.9077356	68	0.0004658613	0.9941463	104	2.954129*-05	0.9999620	140	1.873278*-06	0.9999765
33	0.006804731	0.9145404	69	0.0004315029	0.9945800	105	2.736255*-05	0.9999653	141	1.735119*-06	0.9999782
34	0.006302863	0.9206832	70	0.0003996785	0.9949805	106	2.534449*-05	0.9999681	142	1.607149*-06	0.9999798
35	0.005838010	0.9266812	71	0.0003702012	0.9953507	107	2.347527*-05	0.9999701	143	1.488618*-06	0.9999813

STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1
0	0.004219610	0.004219610	42	0.008857482	0.7116216	84	0.002485939	0.9190656	126	0.0006976870	0.9772854
1	0.01306047	0.01728099	43	0.008593723	0.7202153	85	0.002411457	0.9214774	127	0.0006768957	0.9779624
2	0.02120423	0.03469730	44	0.008337628	0.7285529	86	0.002339966	0.9238715	128	0.0006567202	0.9788191
3	0.02524274	0.06375501	45	0.008089166	0.7364621	87	0.002268077	0.9260877	129	0.0006371536	0.9795253
4	0.02658992	0.09023394	46	0.007848106	0.7443902	88	0.002202598	0.9282903	130	0.0006181861	0.9797744
5	0.02663789	0.1169618	47	0.007614433	0.7521045	89	0.002136960	0.9304673	131	0.0005997500	0.9804742
6	0.02615549	0.1431174	48	0.007387325	0.7594917	90	0.002073278	0.9325005	132	0.0005818724	0.9810540
7	0.02548422	0.1686014	49	0.007167183	0.7664590	91	0.002011494	0.9345120	133	0.0005645326	0.9816206
8	0.02476032	0.1933619	50	0.006953601	0.7734612	92	0.001951551	0.9364436	134	0.0005477094	0.9821693
9	0.02403352	0.2173954	51	0.006743682	0.7803589	93	0.001893395	0.9383570	135	0.0005313875	0.9826986
10	0.02332057	0.2407160	52	0.006545339	0.7869063	94	0.001836971	0.9401940	136	0.0005155520	0.9832152
11	0.02262651	0.2633625	53	0.006350286	0.7932546	95	0.001782229	0.9419762	137	0.0005001864	0.9837154
12	0.02195246	0.2852950	54	0.006161065	0.7994156	96	0.001729119	0.9437053	138	0.0004852829	0.9842707
13	0.02129832	0.3065933	55	0.005977444	0.8053930	97	0.001677590	0.9453829	139	0.0004708213	0.9848715
14	0.02066363	0.3272569	56	0.005797316	0.8111924	98	0.001625598	0.9470105	140	0.0004561662	0.9854283
15	0.02004785	0.3473048	57	0.005626496	0.8168189	99	0.001573999	0.9486986	141	0.0004421782	0.9859574
16	0.01945043	0.3667552	58	0.005458824	0.8222777	100	0.001522038	0.9501216	142	0.0004299714	0.9865014
17	0.01887080	0.3856240	59	0.005291652	0.8277583	101	0.001470483	0.9516080	143	0.0004171582	0.9869884
18	0.01830645	0.4039344	60	0.005138326	0.8327122	102	0.001418209	0.9530501	144	0.0004040726	0.9874823
19	0.01776285	0.4216783	61	0.004985202	0.8376474	103	0.001366117	0.9544492	145	0.0003909661	0.9879710
20	0.01723351	0.4398930	62	0.004836661	0.8425340	104	0.001314740	0.9558066	146	0.0003779065	0.9884597
21	0.01671995	0.4584507	63	0.004692510	0.8472266	105	0.001263060	0.9571236	147	0.0003649117	0.9889636
22	0.01622165	0.4769724	64	0.004552476	0.8517792	106	0.001217723	0.9584033	148	0.0003518597	0.9894752
23	0.01573829	0.4974108	65	0.004417002	0.8561962	107	0.001173046	0.9596879	149	0.0003390099	0.9899934
24	0.01526928	0.5028800	66	0.004285373	0.8606816	108	0.001128705	0.9608337	150	0.0003275432	0.9905106
25	0.01481425	0.5174963	67	0.004157670	0.8654393	109	0.001086660	0.9620106	151	0.0003164662	0.9910381
26	0.01437279	0.5320671	68	0.004033770	0.8686730	110	0.0010413092	0.9631426	152	0.0003051775	0.9915695
27	0.01394688	0.5460116	69	0.003913563	0.8725866	111	0.001009835	0.9642410	153	0.0002940258	0.9920661
28	0.01352893	0.5595605	70	0.003796900	0.8765835	112	0.001006562	0.9653066	154	0.0002909707	0.9925624
29	0.01312576	0.5726662	71	0.003683790	0.8800673	113	0.001003868	0.9663405	155	0.0002900158	0.9930553
30	0.01273401	0.5856099	72	0.003574503	0.8836414	114	0.001001059	0.9673435	156	0.0002815116	0.9935848
31	0.01235551	0.5977560	73	0.003467801	0.8871089	115	0.0009981667	0.9683167	157	0.0002733225	0.9941379
32	0.01198696	0.6097629	74	0.003364174	0.8906730	116	0.0009956167	0.9692609	158	0.0002658836	0.9947372
33	0.01162972	0.6213726	75	0.0032643921	0.8937370	117	0.0009931603	0.9701799	159	0.0002625089	0.9951300
34	0.01128314	0.6326559	76	0.003164636	0.8969033	118	0.000990887325	0.9710696	160	0.0002599254	0.99516795
35	0.01094964	0.6436027	77	0.0030702289	0.8999759	119	0.00098822460	0.9719279	161	0.0002574928	0.9952125
36	0.01062069	0.6542234	78	0.002980730	0.9029566	120	0.00098536531	0.9727644	162	0.0002549764	0.9952562
37	0.01030620	0.6645274	79	0.002891908	0.9058645	121	0.00098116216	0.9735761	163	0.0002527869	0.9952840
38	0.009999129	0.6745247	80	0.002802805	0.9088493	122	0.00097874170	0.9743363	164	0.0002509084	0.9953050
39	0.009696921	0.6842239	81	0.002722117	0.9113764	123	0.00097639714	0.9751275	165	0.0002484111	0.99530194
40	0.009410174	0.6936142	82	0.002640698	0.9140736	124	0.000974012047	0.9758686	166	0.0002460328	0.9953274
41	0.0091429731	0.7027418	83	0.002562396	0.9165197	125	0.0009716817	0.9765269	167	0.0002438111	0.9953292





S7ATE	PIN=11	PINC=13	STATE	PIN=11	PINC=11	STATE	PIN=11	PINC=11	STATE	PIN=11	PINC=11
168	0.0001958082	0.9936250	214	4.889068*-05	0.9964148	260	1.210768*-05	0.9996058	306	3.010759*-06	0.9999020
169	0.0001899731	0.9938151	215	4.723949*-05	0.9986620	261	1.174487*-05	0.9996175	307	2.921038*-06	0.9999049
170	0.0001841118	0.9939994	216	4.583194*-05	0.9985078	262	1.139681*-05	0.9996289	308	2.833990*-06	0.9999077
171	0.0001786193	0.9941782	217	4.446614*-05	0.9985523	263	1.103718*-05	0.9996400	309	2.749536*-06	0.9999105
172	0.0001734904	0.9943517	218	4.314104*-05	0.9985954	264	1.072767*-05				

[illegible]





STATE I	PIN=I	PINC=I	STATE I	PIN=I	PINC=I	STATE I	PIN=I	PINC=I	STATE I	PIN=I	PINC=I
740	0.0004140425	0.9727189	354	7.435126*-05	0.9931010	468	1.335144*-05	0.9991202	382	2.397574*-06	0.9998420
241	0.0004078525	0.9731248	355	7.323955*-05	0.9951744	469	1.315188*-05	0.9991534	383	2.361729*-06	0.9998444
242	0.0004017551	0.9735285	356	7.214440*-05	0.9952464	470	1.299526*-05	0.9991643	384	2.326422*-06	0.9998467
243	0.0003957488	0.9739243	357	7.106802*-05	0.9953175	471	1.276157*-05	0.9991751	385	2.291462*-06	0.9998490
244	0.0003898323	0.9743141	358	7.000358*-05	0.9953875	472	1.257079*-05	0.9991861	386	2.257381*-06	0.9998512
245	0.0003840034	0.9746981	359	6.895703*-05	0.9954564	473	1.238285*-05	0.9991967	387	2.223634*-06	0.9998534
246	0.0003782634	0.9750764	360	6.792613*-05	0.9955245	474	1.219773*-05	0.9992083	388	2.190391*-06	0.9998556
247	0.0003726084	0.9754540	361	6.691062*-05	0.9955931	475	1.201537*-05	0.9992201	389	2.157643*-06	0.9998578
248	0.0003670380	0.9758316	362	6.591051*-05	0.9956617	476	1.183574*-05	0.9992319	390	2.125387*-06	0.9998600
249	0.0003615506	0.9762177	363	6.492946*-05	0.9957301	477	1.165880*-05	0.9992435	391	2.093612*-06	0.9998622
250	0.0003561544	0.9766037	364	6.395235*-05	0.9957986	478	1.148505*-05	0.9992554	392	2.062313*-06	0.9998644
251	0.0003508211	0.9769884	365	6.298821*-05	0.9958671	479	1.131281*-05	0.9992674	393	2.031461*-06	0.9998666
252	0.0003455763	0.9773731	366	6.203638*-05	0.9959351	480	1.114368*-05	0.9992795	394	2.001110*-06	0.9998688
253	0.0003404100	0.9777575	367	6.112886*-05	0.9959922	481	1.097708*-05	0.9992917	395	1.971194*-06	0.9998710
254	0.0003353208	0.9781408	368	6.024147*-05	0.9960598	482	1.081297*-05	0.9993039	396	1.941725*-06	0.9998732
255	0.0003303078	0.9785236	369	5.931455*-05	0.9961274	483	1.065132*-05	0.9993162	397	1.912496*-06	0.9998754
256	0.0003253696	0.9789051	370	5.842780*-05	0.9961952	484	1.049208*-05	0.9993286	398	1.884101*-06	0.9998776
257	0.0003205054	0.9792860	371	5.755625*-05	0.9962632	485	1.033523*-05	0.9993410	399	1.855953*-06	0.9998798
258	0.0003157137	0.9796677	372	5.669585*-05	0.9963309	486	1.018071*-05	0.9993535	400	1.828187*-06	0.9998820
259	0.0003109460	0.9799907	373	5.584629*-05	0.9963987	487	1.002951*-05	0.9993661	401	1.800856*-06	0.9998842
260	0.0003063444	0.9799151	374	5.501138*-05	0.9964675	488	9.878589*-06	0.9993787	402	1.773943*-06	0.9998864
261	0.0003017646	0.9801168	375	5.418896*-05	0.9965363	489	9.760959*-06	0.9993913	403	1.747412*-06	0.9998886
262	0.0002972533	0.9802181	376	5.337886*-05	0.9966052	490	9.645821*-06	0.9994040	404	1.721289*-06	0.9998908
263	0.0002928092	0.9803069	377	5.258081*-05	0.9966741	491	9.532114*-06	0.9994167	405	1.695534*-06	0.9998930
264	0.0002884311	0.9803953	378	5.179473*-05	0.9967432	492	9.420965*-06	0.9994294	406	1.670207*-06	0.9998952
265	0.0002841197	0.9812794	379	5.102040*-05	0.9968124	493	9.311915*-06	0.9994421	407	1.645237*-06	0.9998974
266	0.0002798722	0.9815593	380	5.025766*-05	0.9968818	494	9.204944*-06	0.9994548	408	1.620460*-06	0.9998996
267	0.0002756880	0.9818350	381	4.950630*-05	0.9969514	495	9.099021*-06	0.9994675	409	1.596412*-06	0.9999018
268	0.0002715664	0.9821064	382	4.876617*-05	0.9970211	496	8.994181*-06	0.9994802	410	1.572565*-06	0.9999040
269	0.0002675066	0.9823741	383	4.803712*-05	0.9970909	497	8.890381*-06	0.9994929	411	1.549036*-06	0.9999062
270	0.0002635072	0.9826376	384	4.731896*-05	0.9971608	498	8.787623*-06	0.9995056	412	1.525878*-06	0.9999084
271	0.0002595680	0.9828972	385	4.661155*-05	0.9972308	499	8.685905*-06	0.9995183	413	1.503066*-06	0.9999106
272	0.0002556874	0.9831529	386	4.591470*-05	0.9973009	500	8.585246*-06	0.9995310	414	1.480596*-06	0.9999128
273	0.0002518648	0.9834067	387	4.522827*-05	0.9973711	501	8.485641*-06	0.9995437	415	1.458460*-06	0.9999150
274	0.0002480994	0.9836528	388	4.455211*-05	0.9974414	502	8.387081*-06	0.9995564	416	1.436654*-06	0.9999172
275	0.0002443905	0.9838972	389	4.388606*-05	0.9975118	503	8.289577*-06	0.9995691	417	1.415178*-06	0.9999194
276	0.0002407368	0.9841380	390	4.322946*-05	0.9975824	504	8.193135*-06	0.9995818	418	1.394022*-06	0.9999216
277	0.0002371377	0.9843751	391	4.258366*-05	0.9976531	505	8.097769*-06	0.9995945	419	1.373181*-06	0.9999238
278	0.0002335925	0.9846087	392	4.194705*-05	0.9977239	506	8.003480*-06	0.9996072	420	1.352561*-06	0.9999260
279	0.0002301003	0.9848386	393	4.131953*-05	0.9977947	507	7.910267*-06	0.9996199	421	1.332430*-06	0.9999282
280	0.0002266405	0.9850654	394	4.070220*-05	0.9978656	508	7.818113*-06	0.9996326	422	1.312510*-06	0.9999304
281	0.0002232317	0.9852887	395	4.009570*-05	0.9979365	509	7.726998*-06	0.9996453	423	1.292886*-06	0.9999326
282	0.0002199338	0.9855086	396	3.949929*-05	0.9979977	510	7.636921*-06	0.9996580	424	1.273599*-06	0.9999348
283	0.0002166458	0.9857255	397	3.890306*-05	0.9980591	511	7.547884*-06	0.9996707	425	1.254919*-06	0.9999370
284	0.0002133649	0.9859387	398	3.832225*-05	0.9981206	512	7.459881*-06	0.9996834	426	1.236849*-06	0.9999392
285	0.0002102165	0.9861488	399	3.774693*-05	0.9981821	513	7.372933*-06	0.9996961	427	1.219279*-06	0.9999414
286	0.0002070738	0.9863560	400	3.717647*-05	0.9982437	514	7.287081*-06	0.9997088	428	1.199931*-06	0.9999436
287	0.0002039750	0.9865599	401	3.662096*-05	0.9983053	515	7.202347*-06	0.9997215	429	1.181164*-06	0.9999458
288	0.0002009285	0.9867609	402	3.608144*-05	0.9983670	516	7.118727*-06	0.9997342	430	1.163506*-06	0.9999480
289	0.0001979244	0.9869588	403	3.554203*-05	0.9984287	517	7.036240*-06	0.9997469	431	1.146112*-06	0.9999502
290	0.0001949657	0.9871538	404	3.501067*-05	0.9984904	518	6.954892*-06	0.9997596	432	1.128977*-06	0.9999524
291	0.0001920509	0.9873458	405	3.448727*-05	0.9985521	519	6.874601*-06	0.9997723	433	1.112099*-06	0.9999546
292	0.0001891798	0.9875350	406	3.397168*-05	0.9986138	520	6.795364*-06	0.9997850	434	1.095475*-06	0.9999568
293	0.0001863515	0.9877215	407	3.346380*-05	0.9986756	521	6.717197*-06	0.9997977	435	1.079395*-06	0.9999590
294	0.0001835856	0.9879049	408	3.296352*-05	0.9987374	522	6.640137*-06	0.9998104	436	1.063945*-06	0.9999612
295	0.0001808213	0.9880857	409	3.247071*-05	0.9987992	523	6.564181*-06	0.9998229	437	1.049072*-06	0.9999634
296	0.0001781180	0.9882638	410	3.198527*-05	0.9988610	524	6.489329*-06	0.9998354	438	1.034748*-06	0.9999656
297	0.0001754551	0.9884393	411	3.150709*-05	0.9989228	525	6.415582*-06	0.9998479	439	1.020919*-06	0.9999678
298	0.0001728320	0.9886121	412	3.103606*-05	0.9989846	526	6.342938*-06	0.9998604	440	1.007544*-06	0.9999700
299	0.0001702482	0.9887824	413	3.057208*-05	0.9990464	527	6.271395*-06	0.9998729	441	9.946063*-06	0.9999722
300	0.0001677050	0.9889501	414	3.011501*-05	0.9991082	528	6.200952*-06	0.9998854	442	9.826848*-06	0.9999744
301	0.0001651958	0.9891153	415	2.966481*-05	0.9991699	529	6.131614*-06	0.9998979	443	9.709302*-06	0.9999766
302	0.0001627261	0.9892780	416	2.922151*-05	0.9992317	530	6.063375*-06	0.9999104	444	9.593389*-06	0.9999788
303	0.0001602934	0.9894383	417	2.878445*-05	0.9992934	531	6.000000*-06	0.9999229	445	9.478977*-06	0.9999810
304	0.0001578970	0.9895962	418	2.835412*-05	0.9993552	532	5.941511*-06	0.9999354	446	9.366125*-06	0.9999832
305	0.0001555464	0.9897518	419	2.793025*-05	0.9994169	533	5.887967*-06	0.9999479	447	9.254807*-06	0.9999854
306	0.0001532111	0.9899049	420	2.751267*-05	0.9994787	534	5.839367*-06	0.9999604	448	9.145089*-06	0.9999876
307	0.0001509206	0.9900559	421	2.710136*-05	0.9995404	535	5.795714*-06	0.9999729	449	9.036947*-06	0.9999898
308	0.0001486644	0.9902045	422	2.669641*-05	0.9996021	536	5.757039*-06	0.9999854	450	8.930361*-06	0.9999920
309	0.0001464411	0.9903508	423	2.629705*-05	0.9996638	537	5.723344*-06	0.9999979	451	8.825319*-06	0.9999942
310	0.0001442525	0.9904952	424	2.590394*-05	0.9997255	538	5.694629*-06	0.9999999	452	8.721794*-06	0.9999964
311	0.0001420959	0.9906375	425	2.551698*-05	0.9997872	539	5.670881*-06	0.9999999	453	8.619787*-06	0.9999986
312	0.0001399716	0.9907773	426	2.513520*-05	0.9998489	540	5.651611*-06	0.9999999	454	8.519263*-06	0.9999999
313	0.0001378790	0.9909152	427	2.475943*-05	0.9999106	541	5.636839*-06	0.9999999	455	8.420240*-06	0.9999999
314	0.0001358177	0.9910510	428	2.438927*-05	0.9999723	542	5.626477*-06	0.9999999	456	8.322697*-06	0.9999999
315	0.0001337873	0.9911848	429	2.402446*-05	0.9999999	543	5.620514*-06	0.9999999	457	8.226627*-06	0.9999999
316	0.0001317871	0.9913164	430	2.366549*-05	0.9999999	544	5.618967*-06	0.9999999	458	8.131930*-06	0.9999999
317	0.0001298169										





M = 1 , K = 3 , C = 3

RHO	P(DELAY)	L(GIVEN K)	LQ(GIVEN K)	LQ FOR K=1	RATIO
0.10	0.003666602	0.3003194	0.0003194697	0.0004115226	0.7763115
0.20	0.02424558	0.6046423	0.004642341	0.006164383	0.7530909
0.30	0.06861454	0.9220238	0.02202384	0.03001235	0.7338259
0.40	0.1382036	1.267575	0.06757557	0.09411764	0.7179907
0.50	0.2321233	1.666970	0.1669703	0.2368421	0.7049855
0.55	0.2876649	1.900599	0.2505998	0.3583211	0.6993722
0.60	0.3485924	2.169433	0.3694335	0.5321168	0.6942715
0.65	0.4146469	2.489500	0.5395000	0.7823026	0.6896309
0.70	0.4855717	2.887393	0.7873938	1.148804	0.6854032
0.75	0.5611160	3.410858	1.160858	1.703271	0.6815466
0.80	0.6410375	4.155244	1.755244	2.588763	0.6780241
0.85	0.7251036	5.342873	2.792872	4.138801	0.6748024
0.90	0.8130919	7.640500	4.940500	7.353549	0.6718525
0.95	0.9047911	14.38154	11.53154	17.23315	0.6691483
0.98	0.9615077	34.42569	31.48569	47.16011	0.6676340
0.99	0.9806867	67.77367	64.80367	97.13564	0.6671462



M = 1, K = 3, C = 4, RHO = 0.10											
STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)	STATE	P(N=1)	P(NC=1)
0	0.6703012	0.6703012	7	3.179729*-07	0.9999999	0	0.06361115	0.06361115	13	0.0000717622	0.9991725
1	0.2681259	0.9384271	8	2.068655*-08	0.9999999	1	0.1671982	0.2308094	14	0.0002058252	0.9995684
2	0.05363072	0.9920578	9	1.281663*-09	0.9999999	2	0.2218056	0.4526150	15	0.0001132185	0.9997627
3	0.007156037	0.9992138	10	7.638207*-11	0.9999999	3	0.2020493	0.6529661	16	5.920643*-05	0.9999319
4	0.0007202630	0.9999341	11	4.611161*-12	0.9999999	4	0.1423789	0.7936333	17	3.160465*-05	0.9999635
5	6.094297*-05	0.9999991	12	2.463278*-13	0.9999999	5	0.08004946	0.8863928	18	1.692380*-05	0.9999804
6	4.589852*-06	0.9999996	13	1.368679*-14	0.9999999	6	0.05190280	0.9362956	19	9.062450*-06	0.9999895
M = 1, K = 3, C = 4, RHO = 0.20											
0	0.4489971	0.4489971	9	5.185512*-07	0.9999999	7	0.01594510	0.9813235	21	4.852811*-06	0.9999944
1	0.3592891	0.8082861	10	6.319167*-08	0.9999999	8	0.008640174	0.9899637	22	2.598612*-06	0.9999970
2	0.1438320	0.9521181	11	8.006733*-09	0.9999999	9	0.004643301	0.9946170	23	1.391521*-06	0.9999984
3	0.03040050	0.9989906	12	9.854240*-10	0.9999999	10	0.002498424	0.9971154	24	7.451401*-07	0.9999995
4	0.007816106	0.9980167	13	1.146811*-10	0.9999999	11	0.001394510	0.9986549	25	3.990123*-07	0.9999999
5	0.001343926	0.9997587	14	1.352875*-11	0.9999999	M = 1, K = 3, C = 4, RHO = 0.70					
6	0.0002071566	0.9999954	15	1.581348*-12	0.9999999	0	0.04870335	0.04870335	14	3.001105995	0.9983784
7	2.958800*-05	0.9999954	16	1.838160*-13	0.9999999	1	0.1381979	0.1889012	15	0.0009575440	0.9990359
8	3.998493*-06	0.9999994	17	2.128109*-14	0.9999999	2	0.1982278	0.3851291	16	0.0003909168	0.9994268
M = 1, K = 3, C = 4, RHO = 0.30											
0	0.4489971	0.4489971	9	5.185512*-07	0.9999999	3	0.1941371	0.5792642	17	0.0002324020	0.9997674
1	0.3592891	0.8082861	10	6.319167*-08	0.9999999	4	0.1502386	0.7295049	18	0.0001381489	0.9998795
2	0.2166231	0.8765029	11	8.006733*-09	0.9999999	5	0.1027959	0.8323008	19	4.213901*-05	0.9999284
3	0.08733618	0.9638392	12	1.265799*-07	0.9999999	6	0.06582099	0.8982118	20	4.883199*-05	0.9999574
4	0.02768081	0.9907426	13	2.463278*-13	0.9999999	7	0.04005794	0.9387798	21	2.783988*-05	0.9999651
5	0.007809027	0.9979439	14	4.622027*-05	0.9999999	8	0.02463813	0.9636179	22	1.725898*-05	0.9999849
6	0.001682966	0.9995269	15	6.872836*-10	0.9999999	9	0.01478308	0.9782012	23	1.026054*-05	0.9999910
7	0.0003736883	0.9999906	16	1.896830*-10	0.9999999	10	0.008826192	0.9870272	24	6.399946*-06	0.9999946
8	7.915463*-05	0.9999797	17	3.240732*-11	0.9999999	11	0.005257152	0.9922844	25	3.626644*-06	0.9999968
M = 1, K = 3, C = 4, RHO = 0.40											
0	0.2997780	0.2997780	9	1.622071*-05	0.9999999	12	0.001327903	0.9954122	26	2.155942*-06	0.9999981
1	0.3601018	0.6598798	10	3.247400*-06	0.9999999	13	0.001860145	0.9972724	27	1.281718*-06	0.9999981
2	0.2166231	0.8765029	11	8.006733*-09	0.9999999	M = 1, K = 3, C = 4, RHO = 0.75					
3	0.08733618	0.9638392	12	1.265799*-07	0.9999999	0	0.03632528	0.03632528	16	0.001238177	0.9976392
4	0.02768081	0.9907426	13	2.463278*-13	0.9999999	1	0.1709220	0.1709220	17	0.0008121892	0.9986515
5	0.007809027	0.9979439	14	4.622027*-05	0.9999999	2	0.1506495	0.4086319	18	0.0003327596	0.9998982
6	0.001682966	0.9995269	15	6.872836*-10	0.9999999	3	0.1515111	0.6501630	19	0.0003694405	0.9995629
7	0.0003736883	0.9999906	16	1.896830*-10	0.9999999	4	0.1249427	0.7630558	20	0.0002293235	0.9997133
8	7.915463*-05	0.9999797	17	3.240732*-11	0.9999999	5	0.07902890	0.8620848	21	0.0001503677	0.9998119
M = 1, K = 3, C = 4, RHO = 0.50											
0	0.1984609	0.1984609	11	1.432537*-05	0.9999999	6	0.05354341	0.8956282	22	9.863460*-05	0.9998764
1	0.3168436	0.5168436	12	4.002575*-06	0.9999999	7	0.03567201	0.9544681	23	4.264031*-05	0.9999191
2	0.2561713	0.7730148	13	1.113875*-06	0.9999999	8	0.02356789	0.9544681	24	2.783988*-05	0.9999494
3	0.1386577	0.9116726	14	3.092516*-07	0.9999999	9	0.01550881	0.9703738	25	1.678611*-05	0.9999651
4	0.05782836	0.9695010	15	8.574615*-08	0.9999999	10	0.01018685	0.9805637	26	1.197859*-05	0.9999771
5	0.02074999	0.9902509	16	2.375628*-08	0.9999999	11	0.006885767	0.9872495	27	7.857372*-06	0.9999850
6	0.006787110	0.9970396	17	6.873935*-09	0.9999999	12	0.004386473	0.9916360	28	5.154090*-06	0.9999902
7	0.002091825	0.9991298	18	1.821667*-09	0.9999999	13	0.002877563	0.9945135	29	3.180836*-06	0.9999958
8	0.0006201086	0.9997500	19	5.064309*-10	0.9999999	14	0.001887582	0.9964011	30	2.217693*-06	0.9999958
9	0.0001791987	0.9999292	20	1.396619*-10	0.9999999	M = 1, K = 3, C = 4, RHO = 0.80					
10	5.393466*-05	0.9999901	21	3.864797*-11	0.9999999	0	0.02605781	0.02605781	19	7.301303600	0.9966503
M = 1, K = 3, C = 4, RHO = 0.95											
0	0.1291950	0.1291950	12	5.923403*-05	0.9999667	1	0.02605781	0.02605781	19	7.301303600	0.9966503
1	0.2597181	0.3889131	13	2.213449*-05	0.9999668	2	0.08448079	0.1110386	20	0.0009384225	0.9975888
2	0.2624406	0.6513355	14	8.262606*-06	0.9999669	3	0.1405096	0.2351606	21	0.0006735192	0.9982634
3	0.1791848	0.8305383	15	3.084189*-06	0.9999670	4	0.1596866	0.4112949	22	0.0004662996	0.9987505
4	0.09503394	0.9255723	16	1.150506*-06	0.9999671	5	0.1444013	0.5558963	23	0.0003350392	0.9990036
5	0.04375296	0.9692522	17	4.291980*-07	0.9999672	6	0.1168237	0.6727200	24	0.0002519762	0.9993525
6	0.01852679	0.9878520	18	1.600891*-07	0.9999673	7	0.08903080	0.7617509	25	0.0001813866	0.9995919
7	0.007654779	0.9935067	19	5.971293*-08	0.9999674	8	0.06586578	0.8601562	26	0.00011030675	0.9997585
8	0.002907215	0.9982133	20	2.227279*-08	0.9999675	9	0.04815586				





M = 1, K = 3, C = 4, AMO = 0.90											
STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)
0	0.01052983	0.01052983	19	0.01124348	0.9337130	38	0.0005728791	0.9946225	57	2.918940*-05	0.9998279
1	0.0388874	0.04941858	20	0.009612951	0.9433259	39	0.0004988000	0.9971123	58	2.495639*-05	0.9998528
2	0.07311589	0.1225345	21	0.009218661	0.9515446	40	0.0004187692	0.9973511	59	2.133718*-05	0.9998742
3	0.09498256	0.2175171	22	0.007028778	0.9585717	41	0.0003580393	0.9978891	60	1.824285*-05	0.9998924
4	0.09922171	0.3167588	23	0.004007925	0.9645797	42	0.0003061164	0.9981952	61	1.559728*-05	0.9999080
5	0.09328985	0.4100287	24	0.005134665	0.9697163	43	0.0002617233	0.9986570	62	1.333536*-05	0.9999213
6	0.08333461	0.4933748	25	0.004391734	0.9741080	44	0.0002273682	0.9988007	63	1.140146*-05	0.9999328
7	0.07267100	0.5640458	26	0.003754647	0.9778629	45	0.0001913173	0.9988720	64	9.748024*-06	0.9999425
8	0.06265652	0.6287023	27	0.003210381	0.9810732	46	0.0001635725	0.9990356	65	8.334365*-06	0.9999508
9	0.05575907	0.6824574	28	0.002744758	0.9838180	47	0.0001398515	0.9991955	66	7.125715*-06	0.9999580
10	0.04602174	0.7286791	29	0.002364713	0.9861647	48	0.0001195649	0.9992951	67	6.092362*-06	0.9999641
11	0.03936762	0.7678448	30	0.002006392	0.9881711	49	0.0001022299	0.9993975	68	5.208830*-06	0.9999692
12	0.03366659	0.8015113	31	0.001715425	0.9898865	50	8.740452*-05	0.9996847	69	4.453445*-06	0.9999737
13	0.02878428	0.8302957	32	0.001466466	0.9913532	51	7.472911*-05	0.9995594	70	3.807606*-06	0.9999775
14	0.02461043	0.8549061	33	0.001253959	0.9926071	52	6.389189*-05	0.9996233	71	3.255426*-06	0.9999808
15	0.02104152	0.8759676	34	0.001072110	0.9936792	53	5.442627*-05	0.9996779	72	2.783324*-06	0.9999835
16	0.01799009	0.8939377	35	0.0009166362	0.9949595	54	4.670437*-05	0.9997246	73	2.379687*-06	0.9999859
17	0.01538116	0.9093189	36	0.0007837024	0.9953794	55	3.993130*-05	0.9997644	74	2.036584*-06	0.9999880
18	0.01315058	0.9224694	37	0.0006700498	0.9960496	56	3.414045*-05	0.9997987	75	1.739528*-06	0.9999897

M = 1, K = 3, C = 4, AMO = 0.95											
STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)
0	0.004744407	0.004744407	36	0.005745836	0.9278389	72	0.0003643560	0.9954241	108	2.310460*-05	0.9997098
1	0.01856295	0.02330736	37	0.005522065	0.9384181	73	0.0003374838	0.9957616	109	2.140058*-05	0.9997312
2	0.03706571	0.06035954	38	0.004929566	0.9380905	74	0.0003125935	0.9960741	110	1.982223*-05	0.9997510
3	0.05124208	0.1115952	39	0.004365980	0.9428565	75	0.0002899389	0.9963637	111	1.836038*-05	0.9997694
4	0.05724675	0.1688399	40	0.004229229	0.9468857	76	0.0002681866	0.9966319	112	1.700617*-05	0.9997864
5	0.05780364	0.2266435	41	0.003917310	0.9508038	77	0.0002400654	0.9968803	113	1.575192*-05	0.9998022
6	0.05803311	0.2822939	42	0.003624641	0.9546314	78	0.0002230648	0.9971104	114	1.459018*-05	0.9998167
7	0.05241117	0.3347058	43	0.003360797	0.9577922	79	0.0002151155	0.9973239	115	1.351412*-05	0.9998302
8	0.04888032	0.3815953	44	0.003112930	0.9609051	80	0.0001973977	0.9975209	116	1.251742*-05	0.9998428
9	0.04539827	0.4289836	45	0.002883365	0.9637885	81	0.0001828391	0.9977037	117	1.159422*-05	0.9998544
10	0.04209314	0.4710767	46	0.002670689	0.9664592	82	0.0001693542	0.9978731	118	1.073912*-05	0.9998651
11	0.03900307	0.5100798	47	0.002473719	0.9689329	83	0.0001568639	0.9980299	119	9.947087*-06	0.9998751
12	0.03613105	0.5442109	48	0.002291276	0.9712242	84	0.0001452948	0.9981753	120	9.213463*-06	0.9998842
13	0.03364765	0.5796785	49	0.002122289	0.9733469	85	0.0001335789	0.9983098	121	8.533947*-06	0.9998928
14	0.03099699	0.6106782	50	0.001965764	0.9753122	86	0.0001246534	0.9984345	122	7.904547*-06	0.9999007
15	0.02871347	0.6393917	51	0.001820784	0.9771330	87	0.0001154599	0.9985499	123	7.321566*-06	0.9999080
16	0.02659579	0.6659875	52	0.001686497	0.9788195	88	0.0001069464	0.9986589	124	6.781582*-06	0.9999141
17	0.02463628	0.6906217	53	0.001562113	0.9803816	89	9.905703*-05	0.9987599	125	6.281422*-06	0.9999211
18	0.02281744	0.7134392	54	0.001446335	0.9818285	90	9.175131*-05	0.9988477	126	5.814151*-06	0.9999244
19	0.02113459	0.7345738	55	0.001340191	0.9831687	91	8.498442*-05	0.9989327	127	5.389048*-06	0.9999323
20	0.01957584	0.7541494	56	0.001241344	0.9844100	92	7.771661*-05	0.9990114	128	4.991592*-06	0.9999373
21	0.01813209	0.7722817	57	0.001149795	0.9855599	93	7.291105*-05	0.9990843	129	4.623449*-06	0.9999419
22	0.01679480	0.7890764	58	0.001064995	0.9866246	94	6.753368*-05	0.9991518	130	4.282458*-06	0.9999462
23	0.01555614	0.8046327	59	0.0009844490	0.9876113	95	6.255289*-05	0.9992144	131	3.966616*-06	0.9999502
24	0.01440883	0.8196415	60	0.0009136959	0.9885250	96	5.793691*-05	0.9992723	132	3.674068*-06	0.9999538
25	0.01334615	0.8323877	61	0.000843084	0.9893713	97	5.366627*-05	0.9993260	133	3.403095*-06	0.9999572
26	0.01236184	0.8447495	62	0.0007838910	0.9901552	98	4.970825*-05	0.9993757	134	3.152109*-06	0.9999604
27	0.01149012	0.8581986	63	0.0007260770	0.9908813	99	4.604213*-05	0.9994217	135	2.919633*-06	0.9999633
28	0.01081866	0.8698055	64	0.0006725268	0.9915938	100	4.266461*-05	0.9994644	136	2.704302*-06	0.9999660
29	0.009982344	0.8796287	65	0.0006229283	0.9921767	101	3.950113*-05	0.9995039	137	2.508553*-06	0.9999685
30	0.009098943	0.8879726	66	0.0005796839	0.9927537	102	3.658782*-05	0.9995404	138	2.320114*-06	0.9999709
31	0.008427873	0.8948156	67	0.000534429	0.9932882	103	3.388937*-05	0.9995744	139	2.149008*-06	0.9999730
32	0.007806297	0.9019619	68	0.0004950162	0.9937832	104	3.138994*-05	0.9996058	140	1.990505*-06	0.9999750
33	0.007230561	0.9079124	69	0.0004568057	0.9942417	105	2.907464*-05	0.9996348	141	1.843700*-06	0.9999768
34	0.006697290	0.9158897	70	0.0004244898	0.9946463	106	2.699850*-05	0.9996617	142	1.707723*-06	0.9999785
35	0.006203344	0.9220930	71	0.0003933678	0.9950597	107	2.494431*-05	0.9996887	143	1.581773*-06	0.9999801

M = 1, K = 3, C = 4, AMO = 0.98											
STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)
0	0.001784126	0.001784126	42	0.009073882	0.7046111	84	0.0025946372	0.9170981	126	0.0007166478	0.9767333
1	0.007271500	0.009061628	43	0.008802637	0.7134137	85	0.0024707040	0.9195886	127	0.0006933513	0.9774266
2	0.01046660	0.02391207	44	0.008540317	0.7219546	86	0.002356689	0.9219564	128	0.0006726492	0.9780899
3	0.02139010	0.04530217	45	0.008285483	0.7308399	87	0.002252642	0.9242909	129	0.0006526429	0.9787520
4	0.02464753	0.07014966	46	0.008038893	0.7392797	88	0.002156547	0.9265510	130	0.0006331961	0.9794851
5	0.02615449	0.09630436	47	0.007799815	0.7460781	89	0.002108910	0.9287399	131	0.0006143268	0.9801955
6	0.02629985	0.1226043	48	0.007564914	0.7534656	90	0.002123680	0.9308594	132	0.0005960178	0.9809595
7	0.02590411	0.1489083	49	0.007341618	0.7609864	91	0.002060394	0.9329200	133	0.0005782563	0.9817348
8	0.02528574	0.1737941	50	0.007122463	0.7681091	92	0.001998994	0.9349190	134	0.0005610283	0.9824348
9	0.02459000	0.1983841	51	0.006910387	0.7759195	93	0.001939423	0.9368564	135	0.0005454057	0.9831955
10	0.02387795	0.2222620	52	0.006704663	0.7817239	94	0.001881628	0.9387401	136	0.0005280853	0.9839872
11	0.02317347	0.2454559	53	0.006504662	0.7882284	95	0.001825555	0.9405654	137	0.0005123463	0.9848195
12	0.02248520	0.2679207	54	0.006310821	0.7943946	96	0.001771153	0.9423368	138	0.0004970802	0.9856811
13	0.02181584	0.2897366	55	0.006122757	0.8006622	97	0.001718373	0.9440551	139	0.0004822670	0.9865989
14	0.02116591	0.3109025	56	0.005950299	0.8064025	98	0.001667165	0.9457223	140	0.0004678953	0.9875688
15	0.02053522	0.3314377	57	0.005786377	0.8123447	99	0.001617483	0.9473394	141	0.0004539520	0.9885207
16	0.01992327	0.3513610	58	0.005639150	0.8179573	100	0.001569282	0.9489090	142	0.0004404261	0.9894811
17	0.01932955	0.3696909	59	0.005494902	0.8233821	101	0.001522517	0.9504316	143	0.0004272994	0.9904485
18	0.01879392	0.3896441	60	0.005356239	0.8288454	102	0.001477146	0.9519087	144	0.0004145689	0.9914185
19	0.01819447	0.4076387	61	0.005216393	0.8337518	103	0.001433127	0.9533418	145	0.0004022117	0.9924000
20	0.01765244	0.4252912	62	0.005084223	0.8387060	104	0.001390419	0.9547323	146	0.0003902358	0.9933954
21	0.01712641	0.4426176	63	0.004960686	0.8435126	105	0.001348694	0.9560813	147	0.0003785025	0.9944741
22	0.01661405	0.4599337	64	0.004846338	0.8481759	106	0.001306879	0.9573901	148	0.0003673168	0.9956013
23	0.01612088	0.4751545	65	0.004732480	0.8527004	107	0.001267672	0.9586598	149	0.0003563687	0.9967937
24	0.01564004	0.4907990	66	0.004619851	0.8570899	108	0.001231941	0.9598818	150	0.0003457488	0.9980435
25	0.01517436	0.5061794	67	0.004502581	0.8613988	109	0.001195921	0.9610870	151	0.0003354654	0.9992789
26	0.01472219	0.5206916	68	0.004381821	0.8656952	110	0.001161913	0.9622446	152	0.0003254690	0.9994444
27	0.01428347	0.5349571	69	0.004260803	0.8698975	111	0.001129096	0.9633717	153	0.0003157507	0.9997201
28	0.01386782	0.5488329	70	0.004138426	0.8739784	112	0.001098199	0.9644932	154	0.0003063413	0.9999245
29	0.01346445	0.5622777	71	0.004017334	0.8779157	113	0.001069001	0.9655222	155	0.0002972123	0.9999327
30	0.01306419	0.5753219	72	0.003898097	0.8816126	114	0.001042744	0.9665494	156	0.0002883952	0.9999100
31	0.01265547	0.5879774	73	0.003781802	0.8853644	115	0.00100946251	0.9675465	157	0.0002797421	0.9998918
32	0.01225783	0.6002557	74	0.0036645957	0.8878104	116	0.000967114251	0.9685136	158	0.0002714251	0.9998163
33	0.01191924	0.6121682	75	0.003543637	0.8911537	117	0.0009302899	0.9694919	159	0.0002633360	0.9997425
34	0.01155749	0.6237357	76	0.003424367	0.8943973	118	0.00089303375	0.9703622	160	0.0002554993	0.9996821
35	0.01121803	0.6349387	77	0.003314476	0.8975543	119	0.0008582095	0.9712459	161	0.0002478757	0.9996299
36	0.01087881	0.6457176	78	0.003203196	0.9005975	120	0.0008258896	0.9721023	162	0.0002404469	0.9995704
37	0.01053549	0.6563722	79	0.003091957	0.9035957	121	0.00079431562	0.9729337	163	0.0002332323	0.9995037
38	0.01024016	0.6666124	80	0.002987936	0.9064331	122	0.0007627964	0.9737403	164	0.0002264993	0.9994301
39	0.009993503	0.6765474	81	0.002878829	0.9092219	123	0.0007325456	0.9745228	165	0.0002199387	0.9993577
40	0.009748939	0.6861864	82	0.0027705201	0.9119271	124	0.0007029235	0.9752820	166	0.0002130786	0.9992848
41	0.00950351497	0.6955380	83	0.0026624565	0.9145517	125	0.00067359596	0.9760186	167	0.0002067288	0.9992163





STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)
168	0.0002005683	0.9934701	214	4.9874367-05	0.9983762	260	1.2402011-05	0.9995962	306	3.0839500-06	0.9998996
169	0.0001945913	0.9936647	215	0.9838809-05	0.9984264	261	1.2032431-05	0.9996042	307	2.9920468-06	0.9999025
170	0.0001887925	0.9938554	216	0.6944121-05	0.9984766	262	1.1673364-05	0.9996189	308	2.9028861-06	0.9999053
171	0.0001831644	0.9940367	217	0.5557121-05	0.9985171	263	1.1325981-05	0.9996312	309	2.8163781-06	0.9999083
172	0.0001777080	0.9942164	218	0.4189801-05	0.9985576	264	1.0988461-05	0.9996422	310	2.7524501-06	0.9999110
173	0.0001723000	0.9943968	219	0.2872941-05	0.9985982	265	1.0661011-05	0.9996529	311	2.6510221-06	0.9999136
174	0.0001668444	0.9945764	220	0.1595331-05	0.9986387	266	1.0343311-05	0.9996632	312	2.5720211-06	0.9999163
175	0.0001622498	0.9947163	221	0.0395578-05	0.9986792	267	1.0035071-05	0.9996732	313	2.4953761-06	0.9999187
176	0.0001574333	0.9948738	222	0.0153161-05	0.9987253	268	0.9736032-05	0.9996830	314	2.4210121-06	0.9999211
177	0.0001527015	0.9950265	223	0.0079429-05	0.9987635	269	0.9445896-05	0.9996924	315	2.3486861-06	0.9999235
178	0.0001480289	0.9951744	224	0.0045408-05	0.9988081	270	0.9164407-05	0.9997011	316	2.2756861-06	0.9999258
179	0.0001437922	0.9953185	225	0.00375612-05	0.9988559	271	0.88913061-05	0.9997105	317	2.2109581-06	0.9999280
180	0.0001395072	0.9954581	226	0.003440391-05	0.9988976	272	0.86283641-05	0.9997191	318	2.1450711-06	0.9999301
181	0.0001353448	0.9955954	227	0.003166001-05	0.9989402	273	0.83749771-05	0.9997275	319	2.0811441-06	0.9999322
182	0.0001313164	0.9957247	228	0.00283831-05	0.9989845	274	0.81298711-05	0.9997356	320	2.0191291-06	0.9999343
183	0.0001274031	0.9958521	229	0.002506751-05	0.9990291	275	0.7891891-05	0.9997432	321	1.9589591-06	0.9999362
184	0.0001236045	0.9959757	230	0.002176661-05	0.9990746	276	0.76611351-05	0.9997512	322	1.9003811-06	0.9999381
185	0.0001199230	0.9960957	231	0.001842041-05	0.9991207	277	0.74353681-05	0.9997585	323	1.8419441-06	0.9999399
186	0.0001163495	0.9962120	232	0.001502021-05	0.9991678	278	0.72143891-05	0.9997658	324	1.7849441-06	0.9999417
187	0.0001128820	0.9963249	233	0.001156691-05	0.9992156	279	0.69979951-05	0.9997727	325	1.7356821-06	0.9999434
188	0.0001095181	0.9964344	234	0.000805541-05	0.9992641	280	0.67791901-05	0.9997797	326	1.6839591-06	0.9999452
189	0.0001062545	0.9965407	235	0.0004521801-05	0.9993132	281	0.65701831-05	0.9997861	327	1.6377571-06	0.9999468
190	0.0001030881	0.9966457	236	0.000236421-05	0.9993628	282	0.63743911-05	0.9997925	328	1.59505891-06	0.9999484
191	0.0001000160	0.9967437	237	0.0001470921-05	0.9994130	283	0.61843611-05	0.9997986	329	1.55783311-06	0.9999499
192	0.00009705591-05	0.9968400	238	0.000129571-05	0.9994636	284	0.60001311-05	0.9998046	330	1.5250221-06	0.9999514
193	0.00009413911-05	0.9969350	239	0.000113031-05	0.9995147	285	0.58213311-05	0.9998105	331	1.49473621-06	0.9999529
194	0.00009126491-05	0.9970285	240	0.000097021-05	0.9995662	286	0.56478541-05	0.9998161	332	1.4644271-06	0.9999542
195	0.00008843511-05	0.9971144	241	0.000081541-05	0.9996182	287	0.54795471-05	0.9998219	333	1.43423721-06	0.9999556
196	0.0000857511-05	0.9972008	242	0.0000679161-05	0.9996709	288	0.53162551-05	0.9998275	334	1.40419681-06	0.9999569
197	0.00008313651-05	0.9972865	243	0.0000552071-05	0.9997247	289	0.51578311-05	0.9998332	335	1.37429731-06	0.9999583
198	0.00008057891-05	0.9973752	244	0.0000432391-05	0.9997794	290	0.50031261-05	0.9998389	336	1.34433521-06	0.9999593
199	0.00007816251-05	0.9974657	245	0.0000324251-05	0.9998345	291	0.48550031-05	0.9998441	337	1.31427071-06	0.9999607
200	0.00007578241-05	0.9975519	246	0.0000226421-05	0.9998893	292	0.47105221-05	0.9998495	338	1.28417231-06	0.9999619
201	0.00007343631-05	0.9976358	247	0.00001377931-05	0.9999441	293	0.45699541-05	0.9998548	339	1.25403241-06	0.9999630
202	0.00007103941-05	0.9977165	248	0.00000578321-05	0.9999989	294	0.44337881-05	0.9998600	340	1.2238421-06	0.9999641
203	0.00006867151-05	0.9977951	249	0.000001729821-05	0.9999536	295	0.4302621-05	0.9998651	341	1.1936081-06	0.9999651
204	0.00006634041-05	0.9978724	250	0.00000185241-05	0.9999082	296	0.41734521-05	0.9998701	342	1.16337921-06	0.9999662
205	0.00006402701-05	0.9979486	251	0.0000015798021-05	0.9998628	297	0.40490821-05	0.9998749	343	1.13305851-06	0.9999672
206	0.00006171301-05	0.9980231	252	0.0000013527241-05	0.9998174	298	0.3924811-05	0.9998796	344	1.10263241-06	0.9999682
207	0.00005940861-05	0.9980953	253	0.0000011447041-05	0.9997720	299	0.38015511-05	0.9998841	345	1.0722021-06	0.9999691
208	0.00005711211-05	0.9981653	254	0.0000009407041-05	0.9997267	300	0.36777581-05	0.9998886	346	1.0417621-06	0.9999700
209	0.00005481911-05	0.9982344	255	0.0000007442341-05	0.9996813	301	0.3557571-05	0.9998930	347	1.01106071-06	0.9999709
210	0.00005252911-05	0.9983024	256	0.0000005469541-05	0.9996340	302	0.34400681-05	0.9998976	348	0.98052111-06	0.9999718
211	0.0000502411-05	0.9983704	257	0.0000003492841-05	0.9995867	303	0.33249441-05	0.9999021	349	0.9497261-06	0.9999726
212	0.0000479521-05	0.9984374	258	0.0000001517581-05	0.9995391	304	0.32106171-05	0.9999065	350	0.9187001-06	0.9999734
213	0.0000456621-05	0.9985044	259	0.00000002782951-05	0.9994916	305	0.30976671-05	0.9999109	351	0.88742601-06	0.9999743

STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)	STATE I	PIN(I)	PINC(I)
0	0.0000739697	0.0000739697	60	0.006306004	0.5845001	120	0.002554179	0.8317044	180	0.001034538	0.9318348
1	0.003574586	0.004468492	61	0.006211728	0.5907118	121	0.002515988	0.8342227	181	0.001010701	0.9328598
2	0.007466304	0.01191713	62	0.006118864	0.5968307	122	0.002478574	0.8367150	182	0.001001386	0.9338957
3	0.01084526	0.02276639	63	0.006027366	0.6028951	123	0.002441522	0.8391424	183	0.0009988287	0.9348465
4	0.01275857	0.03551896	64	0.005937278	0.6087954	124	0.002404642	0.8415472	184	0.000994458	0.9358205
5	0.01361637	0.04913333	65	0.005848516	0.6146639	125	0.002368677	0.8439411	185	0.0009899487	0.9367800
6	0.01338892	0.06302023	66	0.005761079	0.6205630	126	0.002333458	0.8463295	186	0.000985431	0.9377352
7	0.01308606	0.07706086	67	0.005674951	0.6264779	127	0.002298795	0.8487051	187	0.0009809107	0.9386852
8	0.01275337	0.09064519	68	0.005590111	0.6324016	128	0.002264209	0.8510815	188	0.0009763910	0.9396333
9	0.01237819	0.1042324	69	0.005505038	0.6383174	129	0.002230599	0.8534527	189	0.0009718748	0.9404767
10	0.011936620	0.1176186	70	0.005420421	0.6442060	130	0.002197015	0.8558297	190	0.0009673574	0.9413165
11	0.011518987	0.1308085	71	0.005334324	0.6500939	131	0.002164169	0.8582048	191	0.0009628404	0.9421531
12	0.01109392	0.1438025	72	0.005248524	0.6559712	132	0.002131815	0.8605785	192	0.0009583236	0.9429865
13	0.01067904	0.1566024	73	0.005162957	0.6618498	133	0.002100095	0.8629491	193	0.0009538064	0.9438165
14	0.01026878	0.1692112	74	0.005077049	0.6677283	134	0.002068890	0.8653164	194	0.0009492891	0.9446430
15	0.010124050	0.1816515	75	0.005000699	0.6736050	135	0.002038129	0.8676819	195	0.0009447716	0.9454653
16	0.010122368	0.1938641	76	0.004924549	0.6794816	136	0.002007813	0.8699469	196	0.0009402541	0.9462833
17	0.010120172	0.2059178	77	0.004848404	0.6853582	137	0.001977516	0.8722119	197	0.0009357366	0.9470973
18	0.010117334	0.2177494	78	0.004772264	0.6912348	138	0.001947157	0.8744769	198	0.0009312191	0.9479073
19	0.010114940	0.2294635	79	0.004696124	0.6971113	139	0.001916799	0.8767419	199	0.0009267016	0.9487133
20	0.010112537	0.2410027	80	0.004620004	0.7029878	140	0.001886440	0.8789969	200	0.0009221841	0.9495193
21	0.010110134	0.2525497	81	0.004543884	0.7088643	141	0.001856081	0.8812519	201	0.0009176666	0.9503253
22	0.010107731	0.2633271	82	0.004467764	0.7147408	142	0.001825722	0.8835069	202	0.0009131491	0.9511313
23	0.010105328	0.2743374	83	0.004391644	0.7206173	143	0.001795365	0.8857619	203	0.0009086316	0.9519373
24	0.010102925	0.2853508	84	0.004315524	0.7264938	144	0.001765008	0.8880169	204	0.0009041141	0.9527433
25	0.010100522	0.2963642	85	0.004239404	0.7323703	145	0.001734651	0.8902719	205	0.0009000000	0.9535493
26	0.010098119	0.3069906	86	0.004163284	0.7382468	146	0.001704294	0.8925269	206	0.0008958859	0.9543553
27	0.010095716	0.3176170	87	0.004087164	0.7441233	147	0.001673937	0.8947819	207	0.0008917718	0.9551613





STATE I	P(N=1)	P(N=1)	STATE I	P(N=1)	STATE I	P(N=1)	STATE I	P(N=1)	STATE I	P(N=1)	
240	0.0000190272	0.9723905	354	7.524621E-05	0.9990420	468	1.351222E-05	0.9991097	382	2.423638E-06	0.9998601
241	0.0000127628	0.9728032	355	7.452127E-05	0.9991162	469	1.331022E-05	0.9991230	383	2.390163E-06	0.9998625
242	0.0000095919	0.9732098	356	7.301316E-05	0.9991892	470	1.311022E-05	0.9991361	384	2.354430E-06	0.9998648
243	0.0000069515	0.9736103	357	7.192140E-05	0.9992811	471	1.291521E-05	0.9991490	385	2.319231E-06	0.9998672
244	0.0000045524	0.9740049	358	7.044634E-05	0.9993319	472	1.272213E-05	0.9991617	386	2.284559E-06	0.9998694
245	0.00000388274	0.9743935	359	6.978723E-05	0.9994017	473	1.253194E-05	0.9991742	387	2.250405E-06	0.9998717
246	0.00000328176	0.9747763	360	6.874390E-05	0.9994705	474	1.234458E-05	0.9991866	388	2.216761E-06	0.9998739
247	0.000002770944	0.9751534	361	6.771619E-05	0.9995382	475	1.216003E-05	0.9991987	389	2.183620E-06	0.9998761
248	0.000002314568	0.9755248	362	6.670303E-05	0.9996049	476	1.197824E-05	0.9992107	390	2.150975E-06	0.9998783
249	0.000001959332	0.9758980	363	6.570600E-05	0.9996706	477	1.179916E-05	0.9992225	391	2.118818E-06	0.9998805
250	0.000001640316	0.9762512	364	6.472429E-05	0.9997353	478	1.162277E-05	0.9992341	392	2.087141E-06	0.9998824
251	0.000001350448	0.9766068	365	6.375660E-05	0.9997991	479	1.144900E-05	0.9992456	393	2.055931E-06	0.9998845
252	0.000001097168	0.9769560	366	6.280340E-05	0.9998619	480	1.127764E-05	0.9992568	394	2.025203E-06	0.9998865
253	0.000000904583	0.9773005	367	6.186457E-05	0.9999238	481	1.110924E-05	0.9992680	395	1.994926E-06	0.9998885
254	0.000000733579	0.9776399	368	6.093970E-05	0.9999847	482	1.094315E-05	0.9992789	396	1.965102E-06	0.9998905
255	0.0000005842845	0.9779741	369	6.002860E-05	0.9999444	483	1.077955E-05	0.9992897	397	1.935723E-06	0.9998924
256	0.0000004529048	0.9783034	370	5.913123E-05	0.9999038	484	1.061840E-05	0.9993003	398	1.906784E-06	0.9998944
257	0.0000003324441	0.9786277	371	5.824721E-05	0.9998621	485	1.045963E-05	0.9993108	399	1.878278E-06	0.9998962
258	0.00000023195147	0.9789473	372	5.737641E-05	0.9998195	486	1.030328E-05	0.9993211	400	1.850197E-06	0.9998980
259	0.0000001473739	0.9792620	373	5.651863E-05	0.9997760	487	1.014925E-05	0.9993312	401	1.822536E-06	0.9998999
260	0.0000000830232	0.9795721	374	5.567368E-05	0.9997314	488	9.9997520E-06	0.9993411	402	1.795290E-06	0.9999017
261	0.0000000339777	0.9798775	375	5.484135E-05	0.9996865	489	9.840055E-06	0.9993511	403	1.768453E-06	0.9999035
262	0.0000000083119	0.9801783	376	5.402144E-05	0.9996409	490	9.700299E-06	0.9993608	404	1.742019E-06	0.9999052
263	0.0000000003345	0.9804746	377	5.321185E-05	0.9995953	491	9.558021E-06	0.9993698	405	1.715964E-06	0.9999069
264	0.0000000000004	0.9807665	378	5.241031E-05	0.9995497	492	9.421962E-06	0.9993790	406	1.690315E-06	0.9999086
265	0.0000000000000	0.9810541	379	5.161445E-05	0.9995037	493	9.272218E-06	0.9993881	407	1.665045E-06	0.9999103
266	0.0000000000000	0.9813373	380	5.082671E-05	0.9994584	494	9.135598E-06	0.9993972	408	1.640152E-06	0.9999120
267	0.0000000000000	0.9816163	381	5.010232E-05	0.9994130	495	9.007051E-06	0.9994060	409	1.615632E-06	0.9999135
268	0.0000000000000	0.9818912	382	4.935329E-05	0.9993678	496	8.882545E-06	0.9994150	410	1.591478E-06	0.9999151
269	0.0000000000000	0.9821619	383	4.861545E-05	0.9993224	497	8.760050E-06	0.9994238	411	1.567685E-06	0.9999167
270	0.0000000000000	0.9824286	384	4.788865E-05	0.9992769	498	8.639535E-06	0.9994323	412	1.544244E-06	0.9999182
271	0.0000000000000	0.9826912	385	4.717271E-05	0.9992314	499	8.520972E-06	0.9994408	413	1.521162E-06	0.9999197
272	0.0000000000000	0.9829500	386	4.646474E-05	0.9991858	500	8.404330E-06	0.9994491	414	1.498271E-06	0.9999212
273	0.0000000000000	0.9832049	387	4.575779E-05	0.9991409	501	8.289583E-06	0.9994574	415	1.476019E-06	0.9999227
274	0.0000000000000	0.9834560	388	4.505284E-05	0.9990959	502	8.176649E-06	0.9994656	416	1.454353E-06	0.9999242
275	0.0000000000000	0.9837033	389	4.434911E-05	0.9990509	503	8.065434E-06	0.9994737	417	1.433211E-06	0.9999256
276	0.0000000000000	0.9839469	390	4.364643E-05	0.9990059	504	7.956417E-06	0.9994818	418	1.412590E-06	0.9999270
277	0.0000000000000	0									



M = 1 , K = 3 , C = 4

RHO	P(DELAY)	L(GIVEN K)	LQ(GIVEN K)	LQ FOR K=1	RATIO
0.10	0.0007861359	0.4000711	7.116624'-05	8.827099'-05	0.8062246
0.20	0.009401366	0.8018660	0.001866044	0.002395209	0.7790734
0.30	0.03616082	1.211990	0.01199088	0.01587846	0.7551666
0.40	0.08832735	1.644428	0.04442849	0.06046649	0.7347621
0.50	0.1694616	2.124806	0.1248068	0.1739130	0.7176395
0.55	0.2212510	2.396861	0.1968613	0.2771986	0.7101816
0.60	0.2804834	2.702851	0.3028520	0.4305648	0.7033833
0.65	0.3470356	3.058896	0.4588963	0.6582100	0.6971882
0.70	0.4207337	3.491676	0.6916764	1.000193	0.6915426
0.75	0.5013680	4.049021	1.049021	1.528301	0.6863963
0.80	0.5887050	4.826358	1.626358	2.385730	0.6817028
0.85	0.6824958	6.046086	2.646086	3.906125	0.6774197
0.90	0.7824829	8.375028	4.775027	7.089779	0.6735086
0.95	0.8884048	15.14665	11.34665	16.93695	0.6699347
0.98	0.9546978	35.20885	31.28883	46.84386	0.6679390
0.99	0.9772396	68.56277	64.60278	96.81261	0.6672972





M = 1, K = 4, C = 2, RHO = 0.10										M = 1, K = 4, C = 2, RHO = 0.05									
STATE	PIN=1	PINC=1	STATE	PIN=1	PINC=1	STATE	PIN=1	PINC=1	STATE	PIN=1	PINC=1	STATE	PIN=1	PINC=1	STATE	PIN=1	PINC=1	STATE	PIN=1
0	0.0180028	0.0180028	7	1.1261697-08	0.9999999	0	0.2064423	0.2064423	13	0.0001973014	0.9997848	0	0.0001973014	0.9997848	13	0.0001973014	0.9997848	0	0.0001973014
1	0.0183963	0.0183963	8	5.3628621-10	0.9999999	1	0.2871352	0.2871352	14	0.0001017764	0.9998915	1	0.0001017764	0.9998915	14	0.0001017764	0.9998915	1	0.0001017764
2	0.01667149	0.01667149	9	2.4690851-11	0.9999999	2	0.2190213	0.2190213	15	0.0001017764	0.9998915	2	0.0001017764	0.9998915	15	0.0001017764	0.9998915	2	0.0001017764
3	0.001246288	0.9999169	10	1.1206601-12	0.9999999	3	0.1332042	0.0457931	16	0.0001017764	0.9998915	3	0.0001017764	0.9998915	16	0.0001017764	0.9998915	3	0.0001017764
4	7.8603977-05	0.9999999	11	5.0256931-14	0.9999999	4	0.07347715	0.9192703	17	0.0001017764	0.9998915	4	0.0001017764	0.9998915	17	0.0001017764	0.9998915	4	0.0001017764
5	4.3990901-06	0.9999997	12	2.2365211-15	1.0000000	5	0.03687739	0.9381477	18	0.0001017764	0.9998915	5	0.0001017764	0.9998915	18	0.0001017764	0.9998915	5	0.0001017764
6	2.2681197-07	0.9999999	13	9.9062777-17	1.0000000	6	0.02023092	0.9783787	19	0.0001017764	0.9998915	6	0.0001017764	0.9998915	19	0.0001017764	0.9998915	6	0.0001017764
M = 1, K = 4, C = 2, RHO = 0.20										M = 1, K = 4, C = 2, RHO = 0.30									
7	0.001044406	0.9999999	7	1.0655931-08	0.9999999	7	0.01044406	0.9988427	20	0.0001017764	0.9998915	7	0.0001017764	0.9998915	20	0.0001017764	0.9998915	7	0.0001017764
8	0.005401574	0.9999999	8	1.9432321-09	0.9999999	8	0.005401574	0.9942444	21	0.0001017764	0.9998915	8	0.0001017764	0.9998915	21	0.0001017764	0.9998915	8	0.0001017764
9	0.002786723	0.9999999	9	2.2617471-13	0.9999999	9	0.002786723	0.9973101	22	0.0001017764	0.9998915	9	0.0001017764	0.9998915	22	0.0001017764	0.9998915	9	0.0001017764
10	0.001437593	0.9999999	10	2.3215201-14	0.9999999	10	0.001437593	0.9964055	23	0.0001017764	0.9998915	10	0.0001017764	0.9998915	23	0.0001017764	0.9998915	10	0.0001017764
11	0.0007415060	0.9999999	11	2.4043311-15	0.9999999	11	0.0007415060	0.9954005	24	0.0001017764	0.9998915	11	0.0001017764	0.9998915	24	0.0001017764	0.9998915	11	0.0001017764
12	0.0003824914	0.9999999	12	2.4902981-16	0.9999999	12	0.0003824914	0.9944005	25	0.0001017764	0.9998915	12	0.0001017764	0.9998915	25	0.0001017764	0.9998915	12	0.0001017764
M = 1, K = 4, C = 2, RHO = 0.40										M = 1, K = 4, C = 2, RHO = 0.50									
13	0.0001973014	0.9999999	13	2.5846411-17	0.9999999	13	0.0001973014	0.9934005	26	0.0001017764	0.9998915	13	0.0001017764	0.9998915	26	0.0001017764	0.9998915	13	0.0001017764
14	0.0001017764	0.9999999	14	2.6792141-18	0.9999999	14	0.0001017764	0.9924005	27	0.0001017764	0.9998915	14	0.0001017764	0.9998915	27	0.0001017764	0.9998915	14	0.0001017764
15	0.0001017764	0.9999999	15	2.7737891-19	0.9999999	15	0.0001017764	0.9914005	28	0.0001017764	0.9998915	15	0.0001017764	0.9998915	28	0.0001017764	0.9998915	15	0.0001017764
16	0.0001017764	0.9999999	16	2.8683641-20	0.9999999	16	0.0001017764	0.9904005	29	0.0001017764	0.9998915	16	0.0001017764	0.9998915	29	0.0001017764	0.9998915	16	0.0001017764
17	0.0001017764	0.9999999	17	2.9629391-21	0.9999999	17	0.0001017764	0.9894005	30	0.0001017764	0.9998915	17	0.0001017764	0.9998915	30	0.0001017764	0.9998915	17	0.0001017764
18	0.0001017764	0.9999999	18	3.0575141-22	0.9999999	18	0.0001017764	0.9884005	31	0.0001017764	0.9998915	18	0.0001017764	0.9998915	31	0.0001017764	0.9998915	18	0.0001017764
19	0.0001017764	0.9999999	19	3.1520891-23	0.9999999	19	0.0001017764	0.9874005	32	0.0001017764	0.9998915	19	0.0001017764	0.9998915	32	0.0001017764	0.9998915	19	0.0001017764
20	0.0001017764	0.9999999	20	3.2466641-24	0.9999999	20	0.0001017764	0.9864005	33	0.0001017764	0.9998915	20	0.0001017764	0.9998915	33	0.0001017764	0.9998915	20	0.0001017764
21	0.0001017764	0.9999999	21	3.3412391-25	0.9999999	21	0.0001017764	0.9854005	34	0.0001017764	0.9998915	21	0.0001017764	0.9998915	34	0.0001017764	0.9998915	21	0.0001017764
22	0.0001017764	0.9999999	22	3.4358141-26	0.9999999	22	0.0001017764	0.9844005	35	0.0001017764	0.9998915	22	0.0001017764	0.9998915	35	0.0001017764	0.9998915	22	0.0001017764
23	0.0001017764	0.9999999	23	3.5303891-27	0.9999999	23	0.0001017764	0.9834005	36	0.0001017764	0.9998915	23	0.0001017764	0.9998915	36	0.0001017764	0.9998915	23	0.0001017764
24	0.0001017764	0.9999999	24	3.6249641-28	0.9999999	24	0.0001017764	0.9824005	37	0.0001017764	0.9998915	24	0.0001017764	0.9998915	37	0.0001017764	0.9998915	24	0.0001017764
25	0.0001017764	0.9999999	25	3.7195391-29	0.9999999	25	0.0001017764	0.9814005	38	0.0001017764	0.9998915	25	0.0001017764	0.9998915	38	0.0001017764	0.9998915	25	0.0001017764
26	0.0001017764	0.9999999	26	3.8141141-30	0.9999999	26	0.0001017764	0.9804005	39	0.0001017764	0.9998915	26	0.0001017764	0.9998915	39	0.0001017764	0.9998915	26	0.0001017764
27	0.0001017764	0.9999999	27	3.9086891-31	0.9999999	27	0.0001017764	0.9794005	40	0.0001017764	0.9998915	27	0.0001017764	0.9998915	40	0.0001017764	0.9998915	27	0.0001017764
28	0.0001017764	0.9999999	28	4.0032641-32	0.9999999	28	0.0001017764	0.9784005	41	0.0001017764	0.9998915	28	0.0001017764	0.9998915	41	0.0001017764	0.9998915	28	0.0001017764
29	0.0001017764	0.9999999	29	4.0978391-33	0.9999999	29	0.0001017764	0.9774005	42	0.0001017764	0.9998915	29	0.0001017764	0.9998915	42	0.0001017764	0.9998915	29	0.0001017764
30	0.0001017764	0.9999999	30	4.1924141-34	0.9999999	30	0.0001017764	0.9764005	43	0.0001017764	0.9998915	30	0.0001017764	0.9998915	43	0.0001017764	0.9998915	30	0.0001017764
31	0.0001017764	0.9999999	31	4.2869891-35	0.9999999	31	0.0001017764	0.9754005	44	0.0001017764	0.9998915	31	0.0001017764	0.9998915	44	0.0001017764	0.9998915	31	0.0001017764
32	0.0001017764	0.9999999	32	4.3815641-36	0.9999999	32	0.0001017764	0.9744005	45	0.0001017764	0.9998915	32	0.0001017764	0.9998915	45	0.0001017764	0.9998915	32	0.0001017764
33	0.0001017764	0.9999999	33	4.4761391-37	0.9999999	33	0.0001017764	0.9734005	46	0.0001017764	0.9998915	33	0.0001017764	0.9998915	46	0.0001017764	0.9998915	33	0.0001017764
34	0.0001017764	0.9999999	34	4.5707141-38	0.9999999	34	0.0001017764	0.9724005	47	0.0001017764	0.9998915	34	0.0001017764	0.9998915	47	0.0001017764	0.9998915	34	0.0001017764
35	0.0001017764	0.9999999	35	4.6652891-39	0.9999999	35	0.0001017764	0.9714005	48	0.0001017764	0.9998915	35	0.0001017764	0.9998915	48	0.0001017764	0.9998915	35	0.0001017764
36	0.0001017764	0.9999999	36	4.7598641-40	0.9999999	36	0.0001017764	0.9704005	49	0.0001017764	0.9998915	36	0.0001017764	0.9998915	49	0.0001017764	0.9998915	36	0.0001017764
37	0.0001017764	0.9999999	37	4.8544391-41	0.9999999	37	0.0001017764	0.9694005	50	0.0001017764	0.9998915	37	0.0001017764	0.9998915	50	0.0001017764	0.9998915	37	0.0001017764
38	0.0001017764	0.9999999	38	4.9490141-42	0.9999999	38	0.0001017764	0.9684005	51	0.0001017764	0.9998915	38	0.0001017764	0.9998915	51	0.0001017764	0.9998915	38	0.0001017764
39	0.0001017764	0.9999999	39	5.0435891-43	0.9999999	39	0.0001017764	0.9674005	52	0.0001017764									





M = 1, K = 4, C = 2, RMQ = 0.90

STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)
0	0.04980642	0.04980642	19	0.007946947	0.9545505	38	0.0003321487	0.9981706	57	1.395264e-05	0.9999231
1	0.1003867	0.1501933	20	0.008691944	0.9631424	39	0.0002811097	0.9945517	58	1.180864e-05	0.9999349
2	0.1148616	0.2650550	21	0.005663637	0.9688060	40	0.000279137	0.9968696	59	0.994092e-06	0.9999449
3	0.1083387	0.3733937	22	0.004793366	0.9735994	41	0.0002013552	0.9988909	60	8.458370e-06	0.9999534
4	0.09510845	0.4685022	23	0.004056785	0.9775562	42	0.0001704163	0.9990613	61	7.158432e-06	0.9999605
5	0.08140627	0.5499065	24	0.003431111	0.9810896	43	0.0001462280	0.9992036	62	5.058615e-06	0.9999666
6	0.06910962	0.6190162	25	0.002905823	0.9839594	44	0.0001220495	0.9993277	63	3.127631e-06	0.9999717
7	0.05957635	0.6775506	26	0.002459305	0.9864567	45	0.0001033085	0.9994310	64	1.937704e-06	0.9999760
8	0.049894755	0.7270981	27	0.002081401	0.9885311	46	8.743386e-05	0.9995184	65	3.672852e-06	0.9999797
9	0.04193496	0.7690330	28	0.001761567	0.9902977	47	7.399851e-05	0.9995924	66	3.108471e-06	0.9999828
10	0.03569112	0.8045241	29	0.001490879	0.9917846	48	6.262769e-05	0.9996550	67	2.630814e-06	0.9999855
11	0.03003741	0.8345616	30	0.001261787	0.9930503	49	5.300413e-05	0.9997081	68	2.226556e-06	0.9999877
12	0.02542176	0.8599833	31	0.001067897	0.9941183	50	4.485936e-05	0.9997529	69	1.884417e-06	0.9999896
13	0.02151537	0.8814987	32	0.0009038004	0.9950221	51	3.796614e-05	0.9997968	70	1.594851e-06	0.9999912
14	0.01820925	0.8970780	33	0.0007669199	0.9957870	52	3.213216e-05	0.9998230	71	1.349782e-06	0.9999925
15	0.01561116	0.9151191	34	0.0006473800	0.9964364	53	2.719627e-05	0.9998502	72	1.142370e-06	0.9999937
16	0.01364304	0.9281622	35	0.0005479017	0.9969823	54	2.301582e-05	0.9998732	73	9.664302e-07	0.9999946
17	0.01103881	0.9392009	36	0.0004637095	0.9974648	55	1.967914e-05	0.9998927	74	8.182665e-07	0.9999955
18	0.009342551	0.9485435	37	0.0003924544	0.9978386	56	1.646592e-05	0.9999092	75	6.925276e-07	0.9999962

M = 1, K = 4, C = 2, RMQ = 0.95

STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)	STATE I	P(N=1)	P(N<1)
0	0.02401532	0.02401532	36	0.004560734	0.9441889	72	0.0002422866	0.9971521	108	1.281514e-05	0.9998493
1	0.05178936	0.07589445	37	0.004221570	0.9503504	73	0.0002232894	0.9973755	109	1.181033e-05	0.9998612
2	0.04359363	0.1394483	38	0.003890566	0.9542710	74	0.0002057817	0.9975512	110	1.088431e-05	0.9998720
3	0.06477284	0.2042611	39	0.003505316	0.9578565	75	0.0001894468	0.9977709	111	1.003089e-05	0.9998820
4	0.06167163	0.2693280	40	0.003130382	0.9611689	76	0.0001747770	0.9979457	112	9.244393e-06	0.9998913
5	0.05738629	0.3233191	41	0.0028065292	0.9646262	77	0.0001610731	0.9981067	113	8.119562e-06	0.9998998
6	0.05302192	0.3763610	42	0.002456517	0.9670127	78	0.0001484433	0.9982552	114	7.051560e-06	0.9999077
7	0.04848937	0.4252348	43	0.002156648	0.9695992	79	0.0001368645	0.9983920	115	6.235935e-06	0.9999149
8	0.04506595	0.4703003	44	0.001933666	0.9717828	80	0.0001260779	0.9985180	116	5.668511e-06	0.9999216
9	0.04195126	0.5118330	45	0.001761794	0.9741794	81	0.0001161924	0.9986363	117	5.145711e-06	0.9999287
10	0.03827422	0.5501091	46	0.0016024522	0.9762061	82	0.0001071080	0.9987413	118	4.668383e-06	0.9999334
11	0.03527503	0.5853842	47	0.001465785	0.9780699	83	9.468597e-05	0.9988400	119	4.219748e-06	0.9999384
12	0.03250917	0.6178933	48	0.001317491	0.9797594	84	8.094820e-05	0.9989310	120	3.810478e-06	0.9999436
13	0.02994019	0.6467834	49	0.001158420	0.9813761	85	6.838171e-05	0.9990148	121	3.433299e-06	0.9999478
14	0.02761107	0.6756444	50	0.001040419	0.9828365	86	5.724522e-05	0.9990920	122	3.085693e-06	0.9999520
15	0.02544615	0.7009107	51	0.000933910	0.9841804	87	4.718858e-05	0.9991632	123	2.765343e-06	0.9999557
16	0.02345097	0.7243617	52	0.0008240380	0.9854288	88	3.860685e-05	0.9992288	124	2.470110e-06	0.9999592
17	0.02161222	0.7459739	53	0.0007143125	0.9866359	89	3.0446273e-05	0.9992893	125	2.198025e-06	0.9999624





STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1
168	0.0001462367	0.9955395	214	3.313852*-03	0.9999886	260	7.316933*-06	0.9997704	306	1.704795*-06	0.9999480
169	0.0001413945	0.9956811	215	3.210392*-03	0.9999237	261	7.279870*-06	0.9997779	307	1.650677*-06	0.9999494
170	0.0001370997	0.9958182	216	3.108673*-05	0.9999517	262	7.046773*-06	0.9997794	308	1.592777*-06	0.9999512
171	0.0001327475	0.9959510	217	3.009989*-05	0.9999819	263	6.823015*-06	0.9997918	309	1.547541*-06	0.9999528
172	0.0001285335	0.9960795	218	2.914439*-05	0.9999110	264	6.608358*-06	0.9997994	310	1.496416*-06	0.9999543
173	0.0001244533	0.9962040	219	2.821922*-05	0.9999392	265	6.398579*-06	0.9998064	311	1.450866*-06	0.9999557
174	0.0001205026	0.9963245	220	2.732340*-05	0.9999663	266	6.195459*-06	0.9998110	312	1.404792*-06	0.9999571
175	0.0001166773	0.9964411	221	2.643604*-05	0.9999930	267	5.998787*-06	0.9998170	313	1.360198*-06	0.9999585
176	0.0001129734	0.9965554	222	2.561620*-05	0.9999218	268	5.808339*-06	0.9998228	314	1.317018*-06	0.9999598
177	0.0001093871	0.9966635	223	2.480303*-05	0.9999494	269	5.623975*-06	0.9998285	315	1.275211*-06	0.9999611
178	0.0001059147	0.9967694	224	2.401367*-05	0.9999767	270	5.445459*-06	0.9998339	316	1.234793*-06	0.9999623
179	0.0001025325	0.9968719	225	2.325331*-05	0.9999997	271	5.272382*-06	0.9998391	317	1.195334*-06	0.9999635
180	9.929703*-05	0.9969712	226	2.251515*-05	0.9999312	272	5.105207*-06	0.9998443	318	1.157382*-06	0.9999647
181	9.614490*-05	0.9970764	227	2.180041*-05	0.9999581	273	4.943144*-06	0.9998492	319	1.120435*-06	0.9999658
182	9.309282*-05	0.9971695	228	2.110837*-03	0.9999852	274	4.786224*-06	0.9998540	320	1.085255*-06	0.9999669
183	9.013763*-05	0.9972506	229	2.043830*-05	0.9999666	275	4.632679*-06	0.9998586	321	1.050804*-06	0.9999679
184	8.727626*-05	0.9973379	230	1.978946*-05	0.9999904	276	4.481717*-06	0.9998631	322	1.017466*-06	0.9999689
185	8.450572*-05	0.9974224	231	1.916126*-05	0.9999655	277	4.344733*-06	0.9998674	323	9.831483*-07	0.9999699
186	8.182312*-05	0.9975042	232	1.855301*-05	0.9999921	278	4.208812*-06	0.9998717	324	9.538737*-07	0.9999710
187	7.922569*-05	0.9975834	233	1.796406*-05	0.9999691	279	4.073268*-06	0.9998757	325	9.233951*-07	0.9999727
188	7.671071*-05	0.9976602	234	1.739380*-05	0.9999949	280	3.943965*-06	0.9998797	326	8.942760*-07	0.9999737
189	7.427237*-05	0.9977344	235	1.684814*-03	0.9999663	281	3.818765*-06	0.9998835	327	8.649737*-07	0.9999747
190	7.191772*-05	0.9978064	236	1.630701*-05	0.9999926	282	3.695164*-06	0.9998872	328	8.360055*-07	0.9999754
191	6.963673*-05	0.9978760	237	1.578793*-05	0.9999681	283	3.581844*-06	0.9998909	329	8.117859*-07	0.9999752
192	6.742620*-05	0.9979436	238	1.528813*-05	0.9999937	284	3.466314*-06	0.9998943	330	7.860161*-07	0.9999760
193	6.528386*-05	0.9980087	239	1.480281*-05	0.9999684	285	3.356471*-06	0.9998976	331	7.610444*-07	0.9999768
194	6.321145*-05	0.9980719	240	1.433290*-05	0.9999926	286	3.249921*-06	0.9999008	332	7.369048*-07	0.9999775
195	6.120483*-05	0.9981331	241	1.387791*-03	0.9999677	287	3.144754*-06	0.9999039	333	7.135121*-07	0.9999782
196	5.926192*-05	0.9981924	242	1.343737*-05	0.9999920	288	3.046862*-06	0.9999070	334	6.908620*-07	0.9999789
197	5.738068*-05	0.9982494	243	1.301080*-05	0.9999671	289	2.950141*-06	0.9999100	335	6.689310*-07	0.9999796
198	5.553915*-05	0.9983053	244	1.259778*-05	0.9999915	290	2.856490*-06	0.9999129	336	6.478461*-07	0.9999802
199	5.379546*-05	0.9983591	245	1.219787*-05	0.9999679	291	2.765812*-06	0.9999156	337	6.271353*-07	0.9999809
200	5.208775*-05	0.9984112	246	1.181065*-03	0.9999937	292	2.678031*-06	0.9999183	338	6.077321*-07	0.9999815
201	5.043625*-05	0.9984617	247	1.143575*-05	0.9999681	293	2.593000*-06	0.9999209	339	5.870510*-07	0.9999821
202	4.883532*-05	0.9985105	248	1.107271*-05	0.9999922	294	2.509872*-06	0.9999234	340	5.672246*-07	0.9999826
203	4.728286*-05	0.9985577	249	1.072121*-05	0.9999679	295	2.429387*-06	0.9999258	341	5.472151*-07	0.9999831
204	4.578207*-05	0.9986035	250	1.038087*-05	0.9999926	296	2.353816*-06	0.9999282	342	5.271707*-07	0.9999837
205	4.432874*-05	0.9986479	251	1.005134*-03	0.9999683	297	2.279051*-06	0.9999304	343	5.076744*-07	0.9999842
206	4.292154*-05	0.9986908	252	9.732265*-06	0.9999920	298	2.206744*-06	0.9999326	344	5.003697*-07	0.9999847
207	4.153502*-05	0.9987323	253	9.423319*-06	0.9999677	299	2.136694*-06	0.9999348	345	4.844457*-07	0.9999852
208	4.023974*-05	0.9987726	254	9.124181*-06	0.9999926	300	2.068866*-06	0.9999369	346	4.691059*-07	0.9999856
209	3.896236*-05	0.9988115	255	8.834338*-06	0.9999681	301	2.003191*-06	0.9999388	347	4.542144*-07	0.9999861
210	3.772552*-05	0.9988493	256	8.554091*-06	0.9999929	302	1.939600*-06	0.9999408	348	4.397956*-07	0.9999865
211	3.652794*-05	0.9988858	257	8.282453*-06	0.9999683	303	1.878028*-06	0.9999427	349	4.258331*-07	0.9999870
212	3.536839*-05	0.9989212	258	8.019620*-06	0.9999930	304	1.818412*-06	0.9999446	350	4.123166*-07	0.9999874
213	3.424583*-05	0.9989554	259	7.760460*-06	0.9999683	305	1.760487*-06	0.9999463	351	3.992278*-07	0.9999878

STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1	STATE I	PIN=1	PINC=1
0	0.004498280	0.004498280	60	0.004198446	0.0172398	120	0.002364196	0.8540091	180	0.0009017421	0.9443167
1	0.01060343	0.01330172	61	0.006096960	0.6233195	121	0.002326520	0.8593354	181	0.0008873718	0.9452041
2	0.01375084	0.02005256	62	0.006002482	0.6293420	122	0.002289444	0.8658651	182	0.0008732306	0.9460773
3	0.01863636	0.024391620	63	0.005900628	0.6352448	123	0.002252959	0.8680871	183	0.0008593146	0.9469306
4	0.01505826	0.03089647	64	0.005812897	0.6410815	124	0.002217056	0.8630091	184	0.0008458226	0.9477823
5	0.01495510	0.07393956	65	0.005720046	0.6468716	125	0.002181725	0.8652748	185	0.0008321446	0.9486144
6	0.01579405	0.0886855	66	0.005628810	0.6526415	126	0.002146957	0.8676238	186	0.0008186838	0.9494933
7	0.01432117	0.09143217	67	0.005532099	0.6579697	127	0.002112763	0.8695365	187	0.0008053730	0.9503723
8	0.01429112	0.1175008	68	0.00							





STATE	PINC(=)	STATE	PINC(=)	STATE	PINC(=)	STATE	PINC(=)	STATE	PINC(=)		
240	0.0003439388	0.9787615	354	5.509844*-05	0.9965976	468	8.626681*-06	0.9995544	582	1.014020*-06	0.9999127
241	0.00033384578	0.9790999	355	5.422039*-05	0.9965951	469	8.686010*-06	0.9995544	583	1.391485*-06	0.9999151
242	0.0003330640	0.9794330	356	5.335633*-05	0.9967052	470	8.547597*-06	0.9996721	584	1.369311*-06	0.9999154
243	0.0003277564	0.9797608	357	5.250605*-05	0.9967577	471	8.411382*-06	0.9996805	585	1.347449*-06	0.9999167
244	0.0003225333	0.9800833	358	5.166932*-05	0.9968094	472	8.277338*-06	0.9996888	586	1.326015*-06	0.9999181
245	0.0003173933	0.9804007	359	5.084589*-05	0.9968602	473	8.145429*-06	0.9996970	587	1.304886*-06	0.9999194
246	0.0003123353	0.9807130	360	5.003561*-05	0.9969102	474	8.015623*-06	0.9997050	588	1.284099*-06	0.9999207
247	0.0003073579	0.9810204	361	4.923824*-05	0.9969694	475	7.887864*-06	0.9997129	589	1.263624*-06	0.9999219
248	0.0003024598	0.9813228	362	4.843550*-05	0.9970079	476	7.762183*-06	0.9997207	590	1.243488*-06	0.9999232
249	0.0002976398	0.9816205	363	4.768162*-05	0.9970556	477	7.638485*-06	0.9997283	591	1.223472*-06	0.9999244
250	0.0002928965	0.9819134	364	4.692156*-05	0.9971025	478	7.515710*-06	0.9997358	592	1.203125*-06	0.9999256
251	0.0002882290	0.9822014	365	4.617382*-05	0.9971487	479	7.396470*-06	0.9997432	593	1.183492*-06	0.9999268
252	0.0002836357	0.9824452	366	4.543799*-05	0.9971941	480	7.279092*-06	0.9997505	594	1.164098*-06	0.9999279
253	0.0002791157	0.9827444	367	4.471389*-05	0.9972389	481	7.163502*-06	0.9997576	595	1.145715*-06	0.9999291
254	0.0002746677	0.9830590	368	4.400132*-05	0.9972829	482	7.048440*-06	0.9997647	596	1.127229*-06	0.9999303
255	0.0002702905	0.9833693	369	4.330011*-05	0.9973261	483	6.936608*-06	0.9997716	597	1.111232*-06	0.9999313
256	0.0002659832	0.9836753	370	4.261009*-05	0.9973688	484	6.826606*-06	0.9997785	598	1.093524*-06	0.9999325
257	0.0002617445	0.9839871	371	4.193106*-05	0.9974107	485	6.717285*-06	0.9997852	599	1.076098*-06	0.9999335
258	0.0002575733	0.9842944	372	4.126283*-05	0.9974520	486	6.610238*-06	0.9997918	600	1.058949*-06	0.9999346
259	0.0002534685	0.9846348	373	4.060524*-05	0.9974926	487	6.504898*-06	0.9997983	601	1.042074*-06	0.9999356
260	0.0002494294	0.9849575	374	3.995818*-05	0.9975325	488	6.401234*-06	0.9998047	602	1.025447*-06	0.9999366
261	0.0002454545	0.9852440	375	3.932140*-05	0.9975718	489	6.299224*-06	0.9998110	603	1.009125*-06	0.9999377
262	0.0002415629	0.9855084	376	3.869676*-05	0.9976107	490	6.198838*-06	0.9998172	604	9.930436*-07	0.9999387
263	0.0002376934	0.9857522	377	3.807815*-05	0.9976486	491	6.100054*-06	0.9998233	605	9.772184*-07	0.9999394
264	0.0002339057	0.9859561	378	3.747131*-05	0.9976861	492	6.002863*-06	0.9998293	606	9.616451*-07	0.9999406
265	0.0002301782	0.9861784	379	3.687416*-05	0.9977230	493	5.907181*-06	0.9998352	607	9.463207*-07	0.9999415
266	0.0002265100	0.9864012	380	3.628654*-05	0.9977592	494	5.813064*-06	0.9998410	608	9.312401*-07	0.9999425
267	0.0002229904	0.9866257	381	3.570828*-05	0.9977950	495	5.720407*-06	0.9998464	609	9.163998*-07	0.9999434
268	0.0002193482	0.9868550	382	3.513922*-05	0.9978301	496	5.629247*-06	0.9998524	610	9.017960*-07	0.9999443
269	0.0002159527	0.9870793	383	3.457926*-05	0.9978647	497	5.539595*-06	0.9998579	611	8.874249*-07	0.9999452
270	0.0002124226	0.9873083	384	3.402818*-05	0.9978987	498	5.451259*-06	0.9998636	612	8.732828*-07	0.9999461
271	0.0002089278	0.9875323	385	3.348591*-05	0.9979322	499	5.364388*-06	0.9998687	613	8.593661*-07	0.9999469
272	0.0002054967	0.9877580	386	3.295227*-05	0.9979652	500	5.279074*-06	0.9998740	614	8.456133*-07	0.9999477
273	0.0002021579	0.9879750	387	3.242710*-05	0.9979976	501	5.196776*-06	0.9998792	615	8.321199*-07	0.9999486
274	0.0001989130	0.9881994	388	3.191039*-05	0.9980295	502	5.111991*-06	0.9998843	616	8.189327*-07	0.9999494
275	0.0001957466	0.9884285	389	3.140145*-05	0.9980609	503	5.030526*-06	0.9998893	617	8.058821*-07	0.9999502
276	0.0001926494	0.9886585	390	3.090144*-05	0.9980918	504	4.950560*-06	0.9998943	618	7.930395*-07	0.9999510
277	0.0001896209	0.9888874	391	3.040899*-05	0.9981222	505	4.871470*-06	0.9998992	619	7.804016*-07	0.9999518
278	0.0001867559	0.9891165	392	2.992438*-05	0.9981521	506	4.793381*-06	0.9999040	620	7.679650*-07	0.9999526
279	0.0001839191	0.9893446	393	2.944752*-05	0.9981816	507	4.717444*-06	0.9999087	621	7.557267*-07	0.9999533
280	0.0001810897	0.9895729	394	2.897823*-05	0.9982100	508	4.642268*-06	0.9999133	622	7.436834*-07	0.9999540
281	0.0001783070	0.9898009	395	2.851644*-05	0.9982390	509	4.568256*-06	0.9999179	623	7.318324*-07	0.9999548
282	0.0001756103	0.9899831	396	2.806200*-05	0.9982671	510	4.494948*-06	0.9999224	624	7.201935*-07	0.9999555
283	0.0001730188	0.9901695	397	2.761516*-05	0.9982951	511	4.422186*-06	0.9999268	625	7.087525*-07	0.9999562
284	0.0001704631	0.9903598	398	2.717673*-05	0.9983229	512	4.350377*-06	0.9999311	626	6.975391*-07	0.9999569
285	0.0001679285	0.9905500	399	2.674166*-05	0.9983507	513	4.280372*-06	0.9999354	627	6.865281*-07	0.9999574
286	0.0001654683	0.9907465	400	2.631551*-05	0.9983789	514	4.211570*-06	0.9999396	628	6.756486*-07	0.9999583
287	0.0001630505	0.9909480	401	2.589615*-05	0.9984069	515	4.144520*-06	0.9999438	629	6.648621*-07	0.9999591
288	0.0001607444	0.9911500	402	2.548346*-05	0.9984347	516	4.078241*-06	0.9999479	630	6.543953*-07	0.9999599
289	0.0001585394	0.9913536	403	2.507736*-05	0.9984614	517	4.013552*-06	0.9999519	631	6.443532*-07	0.9999602
290	0.0001564448	0.9915576	404	2.467772*-05	0.9984876	518	3.950331*-06	0.9999559	632	6.343317*-07	0.9999608
291	0.0001543599	0.9917629	405	2.428445*-05	0.9985130	519	3.889031*-06	0.9999597	633	6.242245*-07	0.9999615
292	0.0001522742	0.9919683	406	2.389746*-05	0.9985383	520	3.828334*-06	0.9999635	634	6.142928*-07	0.9999621
293	0.0001501969	0.9921735	407	2.351642*-05	0.9985637	521	3.767325*-06	0.9999674	635	6.045519*-07	0.9999627
294	0.0001481255	0.9923787	408	2.314187*-05	0.9985890	522	3.707899*-06	0.9999711	636	5.950916*-07	0.9999633
295	0.0001460593	0.9925839	409	2.277308*-05	0.9986143	523	3.649274*-06	0.9999747	637	5.858437*-07	0.9999639
296	0.0001440000	0.9927891	410	2.241010*-05	0.9986397	524	3.592071*-06	0.9999782	638	5.767525*-07	0.9999645
297	0.0001419468	0.9929943	411	2.205203*-05	0.9986651	525	3.535379*-06	0.9999816	639	5.678093*-07	0.9999650
298	0.0001399000	0.9931995	412	2.170159*-05	0.9986905	526	3.479660*-06	0.9999850	640	5.590392*-07	0.9999656
299	0.0001378582	0.9934047	413	2.135575*-05	0.9987159	527	3.425157*-06	0.9999884	641	5.504038*-07	0.9999661
300	0.0001358138	0.9936099	414	2.101542*-05	0.9987412	528	3.372067*-06	0.9999918	642	5.419328*-07	0.9999667
301	0.0001337662	0.9938151	415	2.068053*-05	0.9987666	529	3.320061*-06	0.9999952	643	5.335953*-07	0.9999672
302	0.0001317206	0.9940203	416	2.035096*-05	0.9987919	530	3.269060*-06	0.9999985	644	5.252772*-07	0.9999677
303	0.0001296761	0.9942255	417	2.002666*-05	0.9988173	531	3.218263*-06	0.9999998	645	5.170541*-07	0.9999682
304	0.0001276333	0.9944307	418	1.970750*-05	0.9988426	532	3.167510*-06	0.9999998	646	5.089373*-07	0.9999688
305	0.0001255919	0.9946359	419	1.939346*-05	0.9988679	533	3.116808*-06	0.9999998	647	5.009708*-07	0.9999692
306	0.0001235512	0.9948411	420	1.908453*-05	0.9988932	534	3.066156*-06	0.9999998	648	4.931224*-07	0.9999697
307	0.0001215112	0.9950463	421	1.878073*-05	0.9989185	535	3.015654*-06	0.9999998	649	4.853802*-07	0.9999702
308	0.0001194712	0.9952515	422	1.848204*-05	0.9989438	536	2.965212*-06	0.9999998	650	4.777468*-07	0.9999707
309	0.0001174312	0.9954567	423	1.818846*-05	0.9989691	537	2.914811*-06	0.9999998	651	4.702184*-07	0.9999712
310	0.0001153912	0.9956619	424	1.789987*-05	0.9989944	538	2.864412*-06	0.9999998	652	4.627900*-07	0.9999716
311	0.0001133512	0.9958671	425	1.761143*-05	0.9990197	539	2.814013*-06	0.9999998	653	4.553713*-07	0.9999720
312	0.0001113112	0.9960723	426	1.732808*-05	0.9990450	540	2.763614*-06	0.9999998	654	4.479478*-07	0.9999725
313	0.0001092712	0.9962775	427	1.704958*-05	0.9990703	541	2.713211*-06	0.9999998	655	4.405243*-07	0.9999729
314	0.0001072312	0.9964827	428	1.677603*-05	0.9990956	542	2.662812*-06	0.9999998	656	4.331009*-07	0.9999734
315	0.0001051912	0.9966879	429	1.650748*-05	0.9991209	543	2.612413*-06	0.9999998	657	4.256774*-07	0.9999738
316	0.0001031512	0.9968931	430	1.624393*-05	0.9991462	544	2.562014*-06	0.9999998	658	4.182539*-07	0.9999742
317	0.0001011112	0.9970983	431	1.598538*-05							



M = 1 , K = 4 , C = 2

RHO	P (DELAY)	L (GIVEN K)	LQ (GIVEN K)	LQ FOR K=1	RATIO
0.10	0.01800282	0.2014192	0.001419268	0.002020202	0.7025376
0.20	0.06568748	0.4114020	0.01140199	0.01666667	0.6841195
0.30	0.1361855	0.6397633	0.03976333	0.05934066	0.6700857
0.40	0.2248634	0.9004360	0.1004360	0.1523809	0.6591115
0.50	0.3284185	1.216784	0.2167840	0.3333333	0.6503521
0.55	0.3849829	1.408476	0.3084767	0.4770609	0.6466191
0.60	0.4443944	1.634190	0.4341897	0.6750000	0.6432440
0.65	0.5064324	1.908866	0.6088663	0.9510822	0.6401826
0.70	0.5709004	2.257362	0.8573624	1.345098	0.6373977
0.75	0.6376227	2.724368	1.224368	1.928571	0.6348576
0.80	0.7064410	3.399211	1.799211	2.844444	0.6325352
0.85	0.7772123	4.490261	2.790261	4.426126	0.6304072
0.90	0.8498066	6.622552	4.822552	7.673684	0.6284533
0.95	0.9241053	12.92111	11.02111	17.58717	0.6266550
0.98	0.9694571	31.70006	29.74007	47.53494	0.6256464
0.99	0.9846982	62.95969	60.97969	97.51749	0.6253206





M = 1, K = 4, C = 3, RHO = 0.10				M = 1, K = 4, C = 3, RHO = 0.03				
STATE I	PIN=I	PINC=I	STATE I	PIN=I	PINC=I	STATE I	PIN=I	
0	0.7406979	0.7406979	7	5.4037581-08	0.9999999	0	0.1156354	
1	0.2222617	0.7629599	8	5.4173931-09	0.9999999	1	0.2314863	
2	0.0333627	0.9963424	9	1.7404131-10	0.9999999	2	0.2393808	
3	0.0033614	0.9997113	10	8.5465821-12	0.9999999	3	0.1757979	
4	0.000268554	0.9999804	11	4.0793511-13	0.9999999	4	0.1082444	
5	1.8395251-05	0.9999987	12	1.9046001-14	0.9999999	5	0.06093282	
6	1.1294071-06	0.9999999	13	3.7427121-15	0.9999999	6	0.03273026	
M = 1, K = 4, C = 3, RHO = 0.20				7	0.01718134	8	0.008924454	
STATE I	PIN=I	PINC=I	STATE I	PIN=I	PINC=I	STATE I	PIN=I	
0	0.5475489	0.5475489	9	9.0623021-08	0.9999999	9	0.004614968	
1	0.3290478	0.8765968	10	9.7866981-09	0.9999999	10	0.02382376	
2	0.09925735	0.9758542	11	1.0356741-09	0.9999999	11	0.021229129	
3	0.02029679	0.9961510	12	1.0872311-10	0.9999999	12	0.0006340337	
4	0.003312610	0.9994636	13	1.1337061-11	0.9999999	M = 1, K = 4, C = 3, RHO = 0.70		
5	0.0004682408	0.9999318	14	1.1776371-12	0.9999999	STATE I	PIN=I	
6	6.0046241-05	0.9999918	15	1.2207241-13	0.9999999	0	0.09209549	
7	7.1934761-06	0.9999990	16	1.2661351-14	0.9999999	1	0.2919202	
8	8.2123971-07	0.9999999	17	1.3086061-15	1.0000000	2	0.2240638	
M = 1, K = 4, C = 3, RHO = 0.30				STATE I		STATE I	PIN=I	
STATE I	PIN=I	PINC=I	STATE I	PIN=I	PINC=I	STATE I	PIN=I	
0	0.4022597	0.4022597	9	3.6945141-06	0.9999992	0	0.09209549	
1	0.1657377	0.7659863	10	6.5735411-07	0.9999998	1	0.2919202	
2	0.05169110	0.9834151	11	1.1603321-08	0.9999999	2	0.2240638	
3	0.01300366	0.9964187	12	2.0394121-08	0.9999999	3	0.1794875	
4	0.002865334	0.9994842	13	3.5749511-09	0.9999999	4	0.1215745	
5	0.0005799081	0.9998660	14	6.2679771-10	0.9999999	5	0.075503390	
6	0.0001109535	0.9999750	15	1.0980261-10	0.9999999	6	0.02631766	
7	2.0478761-05	0.9999955	16	1.9234641-11	0.9999999	7	0.01923883	
M = 1, K = 4, C = 3, RHO = 0.40				17	3.3696541-12	0.9999999	8	0.001928277
STATE I	PIN=I	PINC=I	STATE I	PIN=I	PINC=I	STATE I	PIN=I	
0	0.2919623	0.2919623	11	3.5693091-06	0.9999998	0	0.09209549	
1	0.1535744	0.6455387	12	9.2169301-07	0.9999996	1	0.2919202	
2	0.02149602	0.8624989	13	2.3613991-07	0.9999999	2	0.2240638	
3	0.009204590	0.9564448	14	6.1517651-08	0.9999999	3	0.1794875	
4	0.003165769	0.9864025	15	1.5891501-08	0.9999999	4	0.1215745	
5	0.0009775436	0.9961779	16	4.1053261-09	0.9999999	5	0.075503390	
6	0.000278769	0.9969657	17	1.0605921-09	0.9999999	6	0.02631766	
7	0.0007605655	0.9997263	18	2.7400751-10	0.9999999	7	0.01923883	
8	0.0002021661	0.9999284	19	7.0792111-11	0.9999999	8	0.001928277	
9	5.2958651-05	0.9999814	20	1.8289901-11	0.9999999	9	0.000962544	
10	1.3766341-05	0.9999952	21	6.7254161-12	0.9999999	10	0.000962544	
M = 1, K = 4, C = 3, RHO = 0.50				STATE I		STATE I	PIN=I	
STATE I	PIN=I	PINC=I	STATE I	PIN=I	PINC=I	STATE I	PIN=I	
0	0.2074767	0.2074767	12	1.8562671-05	0.9999989	0	0.07138854	
1	0.1040677	0.5235644	13	6.5487261-06	0.9999996	1	0.2382061	
2	0.0245436	0.7489788	14	2.3162641-06	0.9999987	2	0.2021907	
3	0.0131781	0.9021570	15	9.1503191-07	0.9999991	3	0.1760746	
4	0.00965623	0.9618132	16	2.8753911-07	0.9999996	4	0.1304139	
5	0.02397976	0.9857930	17	1.0144381-07	0.9999999	5	0.08914305	
6	0.009061404	0.9948544	18	3.5789741-08	0.9999999	6	0.05863055	
7	0.003308196	0.9981626	19	1.2626791-08	0.9999999	7	0.03789587	
8	0.001185868	0.9993485	20	4.4548011-09	0.9999999	8	0.02431658	
9	0.0004212256	0.9997697	21	1.5716801-09	0.9999999	9	0.01555991	
10	0.000148917	0.9999187	22	3.5649781-10	0.9999999	10	0.009947976	
11	5.2606851-05	0.9999713	23	1.9563011-10	0.9999999	11	0.006357048	
M = 1, K = 4, C = 3, RHO = 0.55				12	0.000905437	13	0.0006279238	
STATE I	PIN=I	PINC=I	STATE I	PIN=I	PINC=I	STATE I	PIN=I	
0	0.1728353	0.1728353	12	6.7295131-05	0.9999954	0	0.05317813	
1	0.2907144	0.4635497	13	2.7205101-05	0.9999981	1	0.1332750	
2	0.2500651	0.7136149	14	1.0999011-05	0.9999925	2	0.1739155	
3	0.1511281	0.8667430	15	6.4441541-06	0.9999970	3	0.1379155	
4	0.07585251	0.9405955	16	1.7974671-06	0.9999987	4	0.1639460	
5	0.03436680	0.9749624	17	7.2867651-07	0.9999995	5	0.1322541	
6	0.01617544	0.9896778	18	2.9378071-07	0.9999998	6	0.09944222	
7	0.006113630	0.9957914	19	1.1874981-07	0.9999999	7	0.07144260	





M = 1, K = 4, C = 3, RMD = 0.90

STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)
0	0.02311759	0.02311759	19	0.008997098	0.9504462	38	0.0003779428	0.9979184	57	1.587633+-05	0.9999125
1	0.00595302	0.08907062	20	0.007614575	0.9580608	39	0.0003184672	0.9982382	58	1.343672+-05	0.9999260
2	0.09874111	0.1878117	21	0.006444499	0.9645053	40	0.0002707166	0.9985089	59	1.137200+-05	0.9999374
3	0.1090133	0.2958251	22	0.005454216	0.9699595	41	0.0002291165	0.9987361	60	0.024546+-06	0.9999470
4	0.1022406	0.3980457	23	0.004618108	0.9747574	42	0.0001933098	0.9989319	61	0.145610+-06	0.9999551
5	0.09260113	0.4886459	24	0.003906783	0.9784824	43	0.0001641130	0.9990961	62	0.093932+-06	0.9999620
6	0.07802981	0.5664957	25	0.003303645	0.9817888	44	0.0001388949	0.9992350	63	5.834590+-06	0.9999678
7	0.06644279	0.6331385	26	0.002798376	0.9845872	45	0.0001175519	0.9993525	64	4.938030+-06	0.9999728
8	0.05636135	0.6894799	27	0.002364369	0.9864954	46	9.948855+-05	0.9994520	65	4.179237+-06	0.9999769
9	0.04777099	0.7371495	28	0.002004439	0.9887600	47	8.420086+-05	0.9995262	66	3.537043+-06	0.9999805
10	0.04038360	0.7775731	29	0.001646631	0.9904544	48	7.126232+-05	0.9996075	67	2.993531+-06	0.9999835
11	0.03417888	0.8117520	30	0.001357572	0.9920922	49	6.031194+-05	0.9996678	68	2.533556+-06	0.9999860
12	0.02892685	0.8406788	31	0.001215130	0.9933074	50	5.104222+-05	0.9997188	69	2.144224+-06	0.9999881
13	0.02448180	0.8651606	32	0.001078610	0.9943358	51	4.320621+-05	0.9997986	70	1.814738+-06	0.9999900
14	0.02071983	0.8858605	33	0.0008703812	0.9952061	52	3.694401+-05	0.9998295	71	1.535879+-06	0.9999915
15	0.01753466	0.9036166	34	0.0007766359	0.9959428	53	3.094401+-05	0.9998495	72	1.299872+-06	0.9999928
16	0.01486132	0.9182577	35	0.0006824622	0.9965662	54	2.618907+-05	0.9998558	73	1.100129+-06	0.9999939
17	0.01246076	0.9308184	36	0.0005276422	0.9970939	55	2.214678+-05	0.9998779	74	7.310806+-07	0.9999948
18	0.01063063	0.9414491	37	0.0004546611	0.9975406	56	1.875887+-05	0.9998966	75	7.880080+-07	0.9999956

M = 1, K = 4, C = 3, RMD = 0.95

STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)
0	0.01079159	0.01079159	38	0.004880628	0.9626363	72	0.0002981379	0.9964659	108	1.365357+-05	0.9999395
1	0.03270370	0.04369529	39	0.004497763	0.9671361	73	0.0002378960	0.9972071	109	1.233022+-05	0.9999521
2	0.05221782	0.0951308	40	0.00415106	0.9712792	74	0.0001924649	0.9976230	110	1.159461+-05	0.9999637
3	0.06126225	0.1567953	41	0.003820095	0.9759993	75	0.0002020546	0.9976251	111	1.068716+-05	0.9999744
4	0.06253457	0.2195099	42	0.003520570	0.9806198	76	0.0001862117	0.9978113	112	0.949207+-06	0.9999842
5	0.06001839	0.2795268	43	0.003244529	0.9818044	77	0.0001716112	0.9979829	113	0.707695+-06	0.9999933
6	0.05613689	0.3356452	44	0.002990132	0.9845545	78	0.0001591556	0.9981411	114	0.365247+-06	0.9999901
7	0.05199649	0.3876597	45	0.002755682	0.9876102	79	0.0001457549	0.9982868	115	7.709345+-06	0.9999903
8	0.04799005	0.4356494	46	0.002539615	0.9901498	80	0.0001343266	0.9984211	116	7.104871+-06	0.9999916
9	0.04462527	0.4798951	47	0.002340489	0.9924903	81	0.0001237943	0.9985449	117	6.547793+-06	0.9999920
10	0.04077988	0.5206749	48	0.002156976	0.9946673	82	0.0001105142	0.9986590	118	5.034394+-06	0.9999927
11	0.03758298	0.5582579	49	0.001987852	0.9966352	83	0.0001015426	0.9987642	119	5.561249+-06	0.9999936
12	0.0353617	0.5924941	50	0.001831939	0.9978671	84	9.689877+-05	0.9988610	120	5.561249+-06	0.9999937
13	0.03192037	0.6248145	51	0.001683864	0.9981555	85	8.930851+-05	0.9989506	121	4.723366+-06	0.9999946
14	0.02941153	0.6542320	52	0.001555966	0.9987114	86	7.822987+-05	0.9990328	122	4.352399+-06	0.9999948
15	0.02711706	0.6813430	53	0.001433966	0.9983169	87	6.584007+-05	0.9991085	123	4.011689+-06	0.9999952
16	0.02498524	0.7063282	54	0.001321532	0.9984669	88	6.989947+-05	0.9991784	124	3.697151+-06	0.9999956
17	0.02302620	0.7293544	55	0.001217913	0.9985649	89	6.441849+-05	0.9992428	125	3.407255+-06	0.9999959
18	0.02122076	0.7505751	56	0.001122419	0.9986403	90	5.936756+-05	0.9993021	126	3.140100+-06	0.9999960
19	0.01955508	0.7701320	57	0.001034413	0.9987817	91	5.471268+-05	0.9993599	127	2.893891+-06	0.9999960
20	0.01802347	0.7881555	58	0.0009533064	0.9987950	92	5.042276+-05	0.9994073	128	2.666987+-06	0.9999968
21	0.01661029	0.8047658	59	0.0008785597	0.9984736	93	4.664923+-05	0.9994538	129	2.457874+-06	0.9999971
22	0.01530741	0.8200713	60	0.0008096737	0.9980432	94	4.282566+-05	0.9994966	130	2.265157+-06	0.9999973
23	0.01410766	0.8341814	61	0.0007461887	0.9971224	95	3.964779+-05	0.9995361	131	2.087550+-06	0.9999974
24	0.01312149	0.8471828	62	0.0006874816	0.9959171	96	3.637321+-05	0.9995725	132	1.923870+-06	0.9999974
25	0.01198207	0.8581649	63	0.0006337650	0.9945906	97	3.352251+-05	0.9996060	133	1.773024+-06	0.9999974
26	0.01104258	0.8702075	64	0.0005840649	0.9931349	98	3.089293+-05	0.9996369	134	1.634005+-06	0.9999980
27	0.01017676	0.8803843	65	0.0005382742	0.9916732	99	2.847068+-05	0.9996653	135	1.505885+-06	0.9999982
28	0.009378821	0.8897431	66	0.0004940692	0.9904192	100	2.623834+-05	0.9996915	136	1.387812+-06	0.9999983
29	0.008636445	0.8984065	67	0.0004571734	0.9894265	101	2.418105+-05	0.9997157	137	1.278996+-06	0.9999984
30	0.007965729	0.9063722	68	0.0004213275	0.9885047	102	2.248506+-05	0.9997380	138	1.178713+-06	0.9999984
31	0.007346154	0.9137134	69	0.0003882921	0.9876341	103	2.093776+-05	0.9997586	139	1.086292+-06	0.9999982
32	0.006766548	0.9206789	70	0.0003578467	0.9867939	104	1.892741+-05	0.9997755	140	1.001118+-06	0.9999982
33	0.006235074	0.9267141	71	0.0003279888	0.8961237	105	1.744335+-05	0.9997950	141	9.226232+-07	0.9999982
34	0.005746197	0.9324602	72	0.0003039308	0.9946276	106	1.607566+-05	0.9998110	142	8.502822+-07	0.9999980
35	0.005295644	0.9377559	73	0.0002801002	0.9967077	107	1.481520+-05	0.9998258	143	7.836134+-07	0.9999988

M = 1, K = 4, C = 3, RMD = 0.98

STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)
0	0.004143935	0.004143935	42	0.008733947	0.7336313	84	0.002253146	0.9312756	126	0.0005812566	0.9822708
1	0.01300536	0.01714930	43	0.008656692	0.7420580	85	0.002181621	0.9334573	127	0.0005628050	0.9828336
2	0.02155746	0.03870676	44	0.008188240	0.7502463	86	0.002112366	0.9355696	128	0.0005493901	0.9833745
3	0.02636399	0.06505072	45	0.007928308	0.7581746	87	0.002054310	0.9376149	129	0.0005276401	0.9839016
4	0.02801011	0.09315181	46	0.007676227	0.7658512	88	0.001980383	0.9399593	130	0.0005108905	0.9844170
5	0.02852883	0.1214046	47	0.007432938	0.7732841	89	0.001917517	0.9415128	131	0.0004946725	0.9849117
6	0.02772705	0.1491317	48	0.007196981	0.7804411	90	0.001856446	0.9433694	132	0.0004784996	0.9853917
7	0.02686564	0.1760972	49	0.006949817	0.7874497	91	0.001797708	0.9451672	133	0.0004637646	0.9858844
8	0.02614355	0.2022407	50	0.006747305	0.7941970	92	0.001740460	0.9469078	134	0.0004490428	0.9863035
9	0.02532236	0.2275631	51	0.006533116	0.8007300	93	0.001685385	0.9485932	135	0.0004347879	0.9867593
10	0.02452039	0.2520835	52	0.006325725	0.8070556	94	0.001631883	0.9502251	136	0.0004209860	0.9871583
11	0.02374229	0.2758257	53	0.006124917	0.8131807	95	0.001580080	0.9518052	137	0.0004076220	0.9875469
12	0.02298860	0.2988144	54	0.005930483	0.8191112	96	0.001529921	0.9533351	138	0.0003944422	0.9879461
13	0.02225881	0.3210732	55	0.005742222	0.8245434	97	0.001481354	0.9548165	139	0.0003821531	0.9883437
14	0.02155221	0.3426254	56	0.005559940	0.8304133	98	0.001434329	0.9562508	140	0.0003700219	0.9887137
15	0.02086803	0.3634934	57	0.005383443	0.8357968	99	0.001388779	0.9576394	141	0.0003582756	0.9890720
16	0.02020599	0.3836990	58	0.005212549	0.8411094	100	0.001344710	0.9589863	142	0.00034649025	0.9894189
17	0.01956417	0.4032632	59	0.005040730	0.8464565	101	0.001302023	0.9602863	143	0.0003349801	0.9897586
18	0.01894312	0.4222063	60	0.004868862	0.8519433	102	0.001260491	0.9615470	144	0.000323274	0.9900401
19	0.01836175	0.4405441	61	0.004673170	0.8574750	103	0.001220471	0.9627677	145	0.00031164032	0.9903035
20	0.01775952	0.4583076	62	0.004481522	0.8620256	104	0.001181921	0.9639496	146	0.00030049069	0.9904998
21	0.01719576	0.4755034	63	0.00429							





STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)
168	0.0001499500	0.9954262	214	3.4000481-05	0.9998929	260	7.7094551-06	0.9997648	306	1.7480831-06	0.9999467
169	0.0001451899	0.9955714	215	3.2921151-05	0.9999958	261	7.4467211-06	0.9997725	307	1.5925911-06	0.9999403
170	0.0001405809	0.9957120	216	3.1876091-05	0.9999277	262	7.2275511-06	0.9997793	308	1.3388001-06	0.9999500
171	0.0001361182	0.9958482	217	3.0866191-05	0.9999585	263	6.9983161-06	0.9997865	309	1.5868351-06	0.9999515
172	0.0001317172	0.9959800	218	2.9886421-05	0.9999885	264	6.7761591-06	0.9997933	310	1.5364421-06	0.9999531
173	0.0001276134	0.9961076	219	2.8935761-05	0.9991174	265	6.5610521-06	0.9997998	311	1.4876181-06	0.9999546
174	0.0001235624	0.9962311	220	2.8017211-05	0.9991454	266	6.3527751-06	0.9998062	312	1.4404621-06	0.9999560
175	0.0001196400	0.9963508	221	2.7127811-05	0.9991725	267	6.1511091-06	0.9998124	313	1.3947361-06	0.9999576
176	0.0001158420	0.9964666	222	2.6266661-05	0.9991988	268	5.9588451-06	0.9998183	314	1.3504601-06	0.9999588
177	0.0001121647	0.9965788	223	2.5432851-05	0.9992262	269	5.7676791-06	0.9998240	315	1.3075911-06	0.9999601
178	0.0001086061	0.9966874	224	2.4625481-05	0.9992548	270	5.5837161-06	0.9998296	316	1.2660021-06	0.9999614
179	0.0001051565	0.9967926	225	2.3863751-05	0.9992727	271	5.4064881-06	0.9998351	317	1.2258491-06	0.9999622
180	0.0001018183	0.9968944	226	2.3086651-05	0.9992958	272	5.2368381-06	0.9998403	318	1.1869751-06	0.9999638
181	9.8586211-05	0.9969929	227	2.2353971-05	0.9993181	273	5.0868611-06	0.9998454	319	1.1492961-06	0.9999649
182	9.5456651-05	0.9970884	228	2.1644341-05	0.9993398	274	4.9077591-06	0.9998503	320	1.1128111-06	0.9999660
183	9.2426421-05	0.9971808	229	2.0957261-05	0.9993607	275	4.7519641-06	0.9998550	321	1.0774461-06	0.9999671
184	8.9492391-05	0.9972703	230	2.0291981-05	0.9993810	276	4.6011161-06	0.9998596	322	1.0432611-06	0.9999682
185	8.6651691-05	0.9973570	231	1.9647821-05	0.9994007	277	4.4550551-06	0.9998641	323	1.0101811-06	0.9999692
186	8.3900781-05	0.9974409	232	1.9026111-05	0.9994197	278	4.3136321-06	0.9998686	324	9.7809611-07	0.9999701
187	8.1237391-05	0.9975221	233	1.8420211-05	0.9994381	279	4.1766981-06	0.9998724	325	9.4707171-07	0.9999711
188	7.8658561-05	0.9976088	234	1.7835471-05	0.9994566	280	4.0441101-06	0.9998766	326	9.1693361-07	0.9999720
189	7.6161581-05	0.9976759	235	1.7269281-05	0.9994732	281	3.9157321-06	0.9998806	327	8.8784891-07	0.9999729
190	7.3743871-05	0.9977507	236	1.6710811-05	0.9994900	282	3.7914291-06	0.9998843	328	8.5988921-07	0.9999738
191	7.1402901-05	0.9978220	237	1.616702							





STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)	STATE I	P(N=1)	P(NC=1)
240	0.0003482627	0.9788945	354	5.579111+-05	0.9965549	447	0.937644+-06	0.9994481	592	1.451776+-06	0.9999115
241	0.0003421217	0.9788372	355	5.490202+-05	0.9966097	449	5.795213+-06	0.9994549	593	1.408978+-06	0.9999130
242	0.0003372512	0.9791744	356	5.402710+-05	0.9966637	470	8.655052+-06	0.9994633	594	1.330625+-06	0.9999143
243	0.0003318768	0.9795063	357	5.316612+-05	0.9967169	471	9.517124+-06	0.9994749	595	1.364428+-06	0.9999157
244	0.0003265978	0.9798329	358	5.231885+-05	0.9967692	472	8.381395+-06	0.9994824	596	1.322605+-06	0.9999170
245	0.0003213834	0.9801543	359	5.148510+-05	0.9968207	473	8.247828+-06	0.9994907	597	1.321258+-06	0.9999184
246	0.0003162618	0.9804705	360	5.066463+-05	0.9968714	474	3.116391+-06	0.9994988	598	1.300232+-06	0.9999197
247	0.0003112213	0.9807818	361	4.985723+-05	0.9969212	475	7.807707+-06	0.9995064	599	1.279512+-06	0.9999210
248	0.0003062622	0.9810880	362	4.906270+-05	0.9969703	476	7.859765+-06	0.9995146	600	1.259821+-06	0.9999222
249	0.0003013816	0.9813894	363	4.828084+-05	0.9970186	477	7.739111+-06	0.9995224	601	1.239809+-06	0.9999235
250	0.0002965787	0.9816860	364	4.751144+-05	0.9970666	478	7.611254+-06	0.9995300	602	1.219310+-06	0.9999247
251	0.0002918525	0.9819779	365	4.675928+-05	0.9971129	479	6.989961+-06	0.9995375	603	1.199879+-06	0.9999259
252	0.0002872015	0.9822651	366	4.600921+-05	0.9971589	480	7.370600+-06	0.9995450	604	1.180758+-06	0.9999270
253	0.0002826245	0.9825477	367	4.527600+-05	0.9972041	481	7.253141+-06	0.9995521	605	1.161941+-06	0.9999282
254	0.0002781206	0.9828258	368	4.455449+-05	0.9972487	482	7.137555+-06	0.9995592	606	1.143424+-06	0.9999294
255	0.0002736885	0.9831095	369	4.384445+-05	0.9972925	483	7.023010+-06	0.9995663	607	1.125202+-06	0.9999305
256	0.0002693271	0.9833940	370	4.314574+-05	0.9973357	484	6.911879+-06	0.9995732	608	1.107272+-06	0.9999316
257	0.0002650351	0.9836639	371	4.245018+-05	0.9973782	485	6.801731+-06	0.9995800	609	1.089626+-06	0.9999327
258	0.0002608113	0.9839346	372	4.176156+-05	0.9974200	486	6.693338+-06	0.9995866	610	1.072262+-06	0.9999338
259	0.0002566550	0.9842053	373	4.111572+-05	0.9974610	487	6.586672+-06	0.9995931	611	1.055174+-06	0.9999348
260	0.0002525689	0.9844763	374	4.046051+-05	0.9975015	488	6.481707+-06	0.9995995	612	1.038354+-06	0.9999359
261	0.0002485402	0.9847473	375	3.981373+-05	0.9975413	489	6.378461+-06	0.9996061	613	1.021811+-06	0.9999369
262	0.0002445753	0.9850170	376	3.918122+-05	0.9975806	490	6.276767+-06	0.9996124	614	1.005527+-06	0.9999379
263	0.0002406818	0.9852877	377	3.855683+-05	0.9976190	491	6.176740+-06	0.9996185	615	9.935030+-07	0.9999388
264	0.0002368462	0.9855574	378	3.794237+-05	0.9976570	492	6.078307+-06	0.9996246	616	9.737341+-07	0.9999399
265	0.0002330716	0.9858266	379	3.733773+-05	0.9976943	493	5.981443+-06	0.9996306	617	9.552172+-07	0.9999408
266	0.000229357										





$$M = 1, \quad K = 4, \quad C = 3$$

RHO	P(DELAY)	L(GIVEN K)	LQ(GIVEN K)	LQ FOR K=1	RATIO
0.10	0.003657592	0.3003093	0.0003093088	0.0004115226	0.7516203
0.20	0.02414581	0.6044627	0.004462730	0.006164383	0.7239543
0.30	0.06827599	0.9210482	0.02104826	0.03001235	0.7013201
0.40	0.1375011	1.264278	0.064		



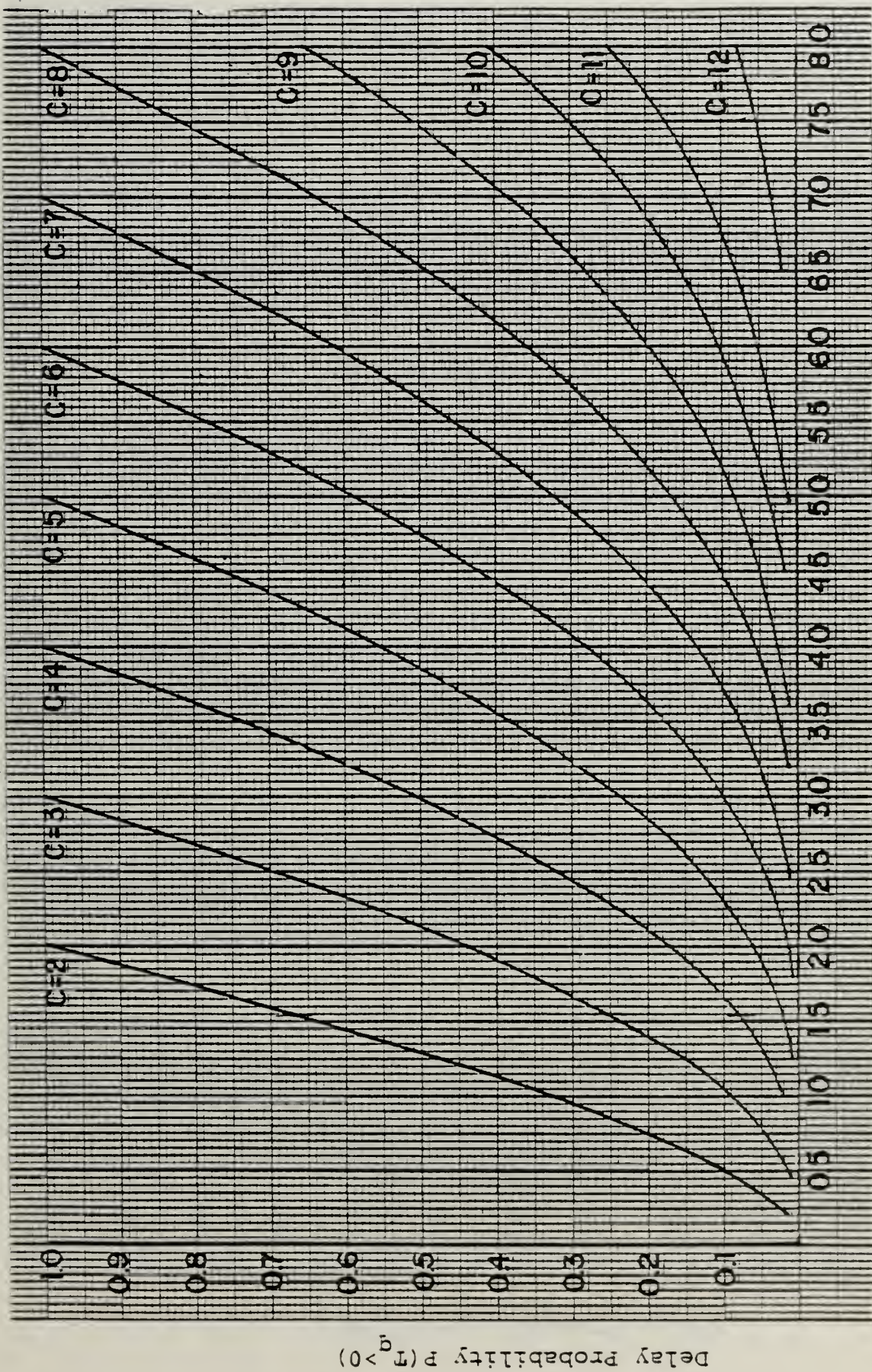
## APPENDIX B

### DELAY PROBABILITY (M/M/c QUEUE)

The following two charts provide the delay probability  $P[T_q > 0]$  for the M/M/c queue and consequently provides an excellent approximation for the M/E<sub>k</sub>/c queue as discussed in Chapter V.

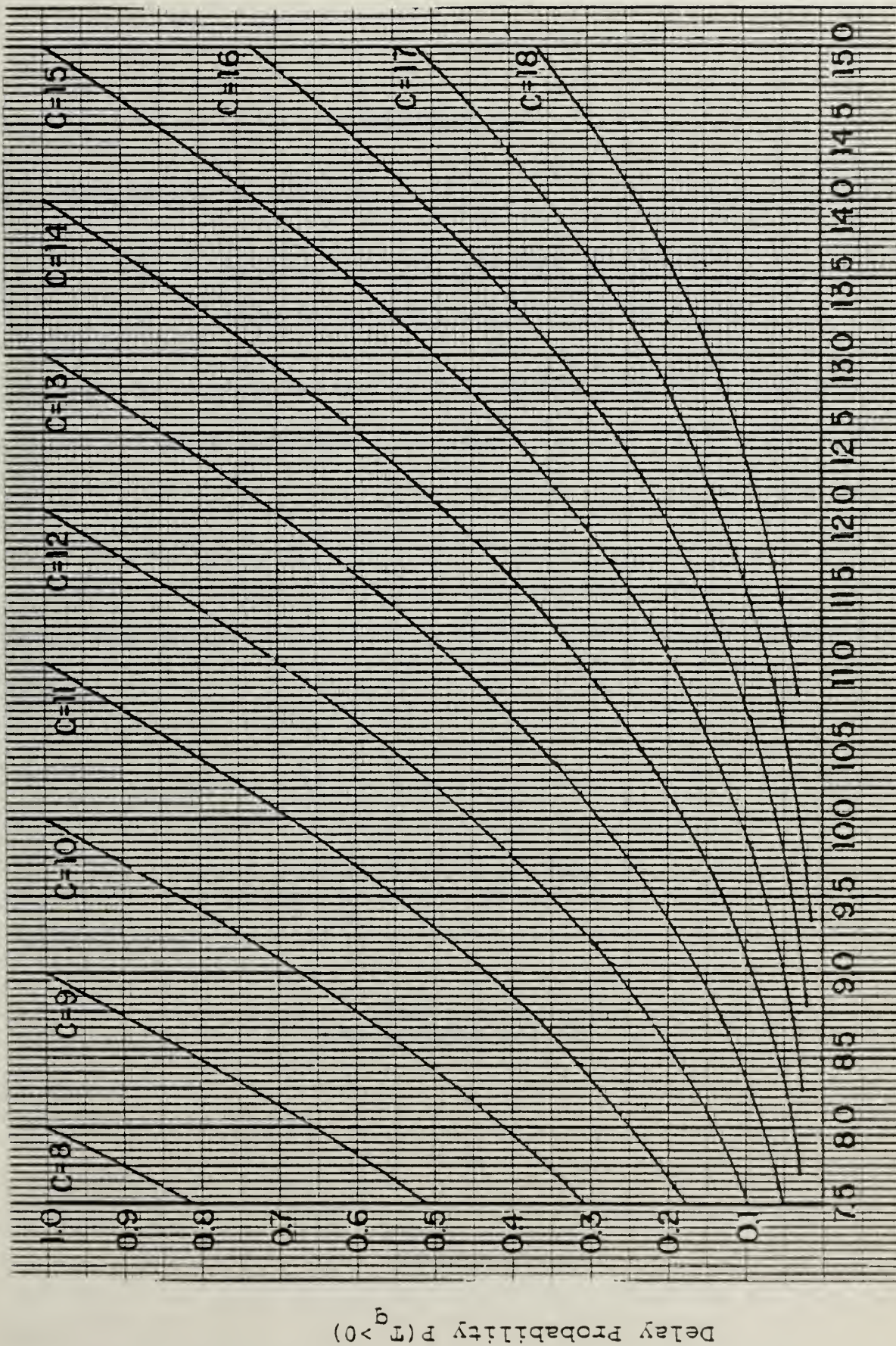




Offered Load  $\alpha$







Offered Load  $\alpha$



## APPENDIX C

### 1. Derivation of $P[S \leq T]$

$S$  = Excess Life of customer in service

$T$  = time to arrival of next serious case

The PDF, in steady state, of the Excess Life of a non-negative random variable with CDF  $F$  is shown by Ross [Ref. 13] to be

$$f_e(x) = \frac{1}{\text{mean}}[1 - F(x)]$$

Given the Erlang distribution as the distribution of service time

$$\begin{aligned} f_e(x) &= \frac{1}{k\beta}[1 - F(x)] \\ &= \frac{1}{k} \sum_{i=0}^{k-1} \frac{\left(\frac{1}{\beta}\right)^{i+1}}{i!} x^i e^{-\frac{1}{\beta}x} \\ &= \frac{1}{k} \sum_{i=0}^{k-1} \frac{f(x)}{\text{Erlang}(i+1, \beta)} \end{aligned}$$

Then

$$F_e(x) = \frac{1}{k} \sum_{i=1}^{k-1} \frac{F(x)}{\text{Erlang}(i+1, \beta)}$$

Now





$$P[S \leq T] = \int_0^{\infty} P[S \leq T | T = x] \lambda_S e^{-\lambda_S x} dx$$

Letting  $T = x$  and using the independence of  $S$  and  $T$  gives

$$\begin{aligned} P[S \leq T] &= \int_0^{\infty} P[S < x] \lambda_S e^{-\lambda_S x} dx \\ &= \int_0^{\infty} F_e(x) \lambda_S e^{-\lambda_S x} dx \\ &= \int_0^{\infty} \frac{1}{k} \sum_{i=0}^{k-1} \frac{F(x)}{\text{Erlang}(i+1, \beta)} \lambda_S e^{-\lambda_S x} dx \\ &= \sum_{i=0}^{k-1} \frac{1}{k} \int_0^{\infty} \sum_{j=i+1}^{\infty} \frac{(\frac{1}{\beta}x)^j}{j!} e^{-\frac{1}{\beta}x} \lambda_S e^{-\lambda_S x} dx \\ &= \frac{1}{k} \sum_{i=0}^{k-1} \sum_{j=i+1}^{\infty} \frac{(\frac{1}{\beta})^j \lambda_S}{(\frac{1}{\beta} + \lambda_S)^{j+1}} \int_0^{\infty} \frac{(\frac{1}{\beta} + \lambda_S)^{j+1}}{j!} x^j e^{-(\frac{1}{\beta} + \lambda_S)x} dx \\ &= \frac{1}{k} \sum_{i=0}^{k-1} \sum_{j=i+1}^{\infty} \left( \frac{\frac{1}{\beta}}{\frac{1}{\beta} + \lambda_S} \right)^j \left( \frac{\lambda_S}{\frac{1}{\beta} + \lambda_S} \right) \\ &= \frac{1}{k} \sum_{i=0}^{k-1} \sum_{j=i+1}^{\infty} p^j q \end{aligned}$$

where



$$\begin{aligned}
\sum_{j=i+1}^{\infty} p^j q &= p^{i+1} q \sum_{j=0}^{\infty} p^j \\
&= p^{i+1} q \frac{1}{1-p} \\
&= p^{i+1}
\end{aligned}$$

Then

$$\begin{aligned}
P[S \leq T] &= \frac{1}{k} \sum_{i=0}^{k-1} p^{i+1} \\
&= \frac{1}{k} p \left( \frac{1-p^k}{1-p} \right) \\
&= \frac{1}{k} \frac{p}{q} (1-p^k) \\
&= \frac{\frac{1}{k\beta}}{\lambda_S} (1 - p^k)
\end{aligned}$$

2. Derivation of  $\sum_{j=1}^{\infty} (p^k)^{j-1} P[A_S = j]$

$$\begin{aligned}
\sum_{j=1}^{\infty} (p^k)^{j-1} P[A_S = j] &= \sum_{j=1}^{\infty} (p^k)^{j-1} \binom{k+j-1}{j} p^k q^j \\
&= \sum_{j=1}^{\infty} \binom{k+j-1}{j} (p^k q)^j
\end{aligned}$$

Letting  $\theta = p^k q$





$$\begin{aligned}
\sum_{j=1}^{\infty} (p^k)^{j-1} P[A_S = j] &= \sum_{j=1}^{\infty} \binom{k+j-1}{j} \theta^j \\
&= \frac{1}{(1-\theta)^k} \left[ \sum_{j=0}^{\infty} \binom{k+j-1}{j} \theta^j (1-\theta)^k - (1-\theta)^k \right] \\
&= \frac{1}{(1-\theta)^k} [1 - (1-\theta)^k] \\
&= \frac{1}{(1-\theta)^k} - 1 \\
&= \frac{1}{(1-p^k q)^k} - 1
\end{aligned}$$



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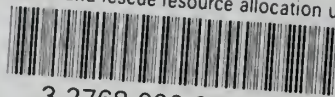
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